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ORIGINAL ARTICLES.

INVESTIGATION OF THE OUTBREAK OF BERI-BERI ON BOARD THE BARK "PAX," FROM CEYLON, WITH A CARGO OF GRAPHITE.

BY ALBERT S. ASHMEAD, M.D.,
OF NEW YORK.

THE iron bark "Pax" left Colombo, Ceylon, February 2, 1893, Cochin, Malabar Coast, February 23, with this cargo: Plumbago, in barrels, 1200 tons; cocoanut oil, in tierces, 400 tons; cocoanut fiber, 1200 bales (80 lbs. to the bale); lemon-grass oil, 95 wine cases; nux vomica, 200 bags (100 lbs. to the bag); turmeric, 200 bags (100 lbs. to the bag); ginger, 444 sacks (100 lbs. to the sack); stick sandal-wood, 200 bundles.

The ship had previously carried a cargo of saltpeter from Iquique, Chile, to Dunkirk, Scotland. Thence it went to Cardiff, South Wales, took a cargo of coal, and went to Bahia, Brazil; discharged the cargo there, and after taking a ballast of sea-sand sailed for Ceylon.

I have obtained from Captain Geeseicke the following information regarding his trip: He had exceptionally dry and fair weather during the whole voyage. Only once, in south latitude 24° 12′, east longitude 65° 21′, did he have a little hurricane, which lasted twenty-four hours. The weather was hot throughout. On May 1st the first mate was taken down with weakness in the knees, pains in the calves, swelling in the ankles, and partial suppression of urine. On May 13th he again reported for duty. On May 15th the captain himself and another of the men suffered from the same symptoms. On May 30th they went to work again. On June 7th the same symptoms appeared in three new men; on June 9th in four more. On June 10th one of these reports for duty. During the entire trip all but six of a crew of nineteen were, more or less, affected with the same symptoms. One died—a cabin-boy, twenty-one years old. The captain does not think that the disease of which this man died was beri-beri, but dropsy, of which his mother, sister, and brother had also died in England. The boy had gone to Brazil when fourteen years old, and, according to the custom, was returning, after a residence of six years, to recruit his health. It became evident, however, from the captain's description of the symptoms, that the disease was beri-beri, the same as that with which the others were affected in a minor degree. I understood that he had increasing dropsy up to the neck, loss of power in his limbs, cyanosed face, and dyspnea, dying in the true attitude of pernicious beri-beri—in a sitting position.

The crew was exclusively composed of Europeans. The bark arrived at the quarantine in New York Harbor on Saturday, July 8th. The captain and ten men were sick at that time with beri-beri. On my visit to the ship I found the former convalescent, but with both legs swollen, loss of reflexes, typical "sheep's run" gait of beri-beri, prolonged muffled first sound of heart, and some paralysis of ocular accommodation still persisting. The first mate and six men had been transferred to the Long Island College Hospital. Three other beri-beri convalescents were still on board. The first-mate was said to be very seriously ill. He had vomiting and circumscribed edema on the back. These are both serious symptoms.

That the disease with which this crew was stricken is beri-beri there can be no doubt. Now the question is: To what causes can the outbreak be traced? The information that I have obtained satisfied me entirely that in this case, as in another case of the same kind,[1] that of the bark "H. B. Cann," the cause was carbonic poison.

Here are the details that were communicated to me by the captain and the second mate:

There were in the ship 1200 tons of *pure carbon* which is usually shipped in lumps, packed in barrels, as it comes from the mines. Many of the barrels were in bad condition, while the lumps had fallen to pieces under the influence of an unusually dry heat, and had eliminated their carbonic gases. This became evident by even a superficial inspection of the iron in the hold of the ship. All the iron parts were incrusted as if by an acid. This appearance could not have been due to the simple contact of the graphite; such a strong corrosive action could only be a chemical one.

Bad smells were coming through the ventilators during the whole trip. These were accounted for by some kind of rottenness in the turmeric. As the cocoanut oil was in tierces and the tierces were afterward found to be only wet with the usual leak-

[1] University Medical Magazine, December, 1892.

age of the oil (which is only 1 per cent. for Cochin and from 2 to 3 per cent. for Colombo oil), and as, moreover, this oil has never been known to undergo fermentation during a voyage, it could not be held responsible for the odor. This odor was so suffocating that if the ship had not been an iron one, the crew could not have tolerated it, because in a wooden ship it would have penetrated through cracks and chinks and made itself felt everywhere; as it was, it was carried alone by the ventilators.

The diet also had nothing to do with the outbreak—there was no want and no fault with it. It included fresh potatoes and lime-juice once a week, and sauer-kraut once a week; a double allowance of lime-juice with grog and quinin was served to the whole crew after the first case had appeared; three-fourths of a pound of preserved meat or one pound of salt meat were served each man daily. During the whole voyage five tierces of salt meat (300 pounds each), and four barrels of pork (200 pounds each) were consumed; from 30 to 36 pounds of preserved meat were consumed every week.

In this case, as in most others, we find the south wind associated with the beri-beri outbreak. There were southeast trades from the Cape of Good Hope to the North Atlantic. The connection between this wind and the outbreak of beri-beri is, in my opinion, a very real, although an indirect, one. The wind is a breeder of intense heat, especially in an iron ship loaded with such heat-absorbing stuff as carbon. This was, said the captain, although he had kept no record of temperature in his log-book, the hottest trip he had ever made. Usually humidity and heat (86° F.) work together in the production of carbonic gases; that is, in cargoes consisting of sugar, wheat, etc., when the trouble arises from fermentation. But in our case, heat alone was enough, because no fermentation was necessary to call into existence carbonic compounds; the direct action of the heat was sufficient.

I have taken pains in this investigation to find out from what source the carbonic poison (which I believe is always the ultimate origin of beri-beri) was derived. I not only found carbon in good disposition for being decomposed, but 1200 tons of it placed during a long sea-voyage in the best condition for decomposition.

NOTE.—There are many among the laity who consider the action of carbon monoxid as an asphyxiating, suffocating one only. But this is a mistake. Carbon monoxid enters the blood without change, and poisons the corpuscles. Dr. Gréhant (*Tribune Médicale*, September 8, 1892, and February 16, 1893) has recorded the results of some very interesting experiments. He has established the law of absorption of the carbon monoxid by the blood of a living mammal, by compounding a series of mixtures of carbon monoxid and air at 1:1000, 1:2000, 1:4000, 1:10,000. He then takes from the carotid of a dog a sample of arterial blood, and extracts the gases at 40°; then he causes the mixture to be inhaled for half an hour, and examines a sample of the blood at that moment. The results of the analysis show that this blood contains less oxygen than the first test-blood, and the figures that represent the carbon monoxid disengaged are exactly proportionate to the quantities of toxic gas introduced into the air. M. Gréhant concludes from these facts that the carbon monoxid is dissolved in the blood-corpuscles, according to the law of Dalton. He has applied his process, using the animal, in order to research and to dose the carbon monoxid in a confined atmosphere.

I shall now give the description of the beri-beri blood, by Dr. Wernich, who did not see in the disease a carbonic poisoning, but, with Dr. Takaki, explained it as an endemic anemia. It will be seen that his description is exactly that of a blood poisoned with carbonic oxids.

"The blood of the beri-beri patients (the examinations of which were, of course, mostly made on the living) showed, compared with the blood of healthy persons, a less vividly red, somewhat dirty coloring, but no especially watery composition. Peculiar adhesiveness or peculiar odor was not found in the samples. Microscopically the number of the red blood-corpuscles did not seem changed. The number of the white seemed not increased. The latter, moreover, showed nothing peculiar in their shape, wherever they appeared distinctly; yet, there were found scattered among them finely granulated, feebly light-yellow, shining, clumpy masses, whose circumference was usually about twice that of the white corpuscles, and sometimes, but rarely, less. It was distinctly visible that the larger of these clumps were not, as might have been thought, compounded of two white blood-corpuscles conglutinated. The red corpuscles, in the initial stages and in the light cases of the disease, did not show themselves different, either as a relative quantity or in shape, from those of normal blood (always observed simultaneously, and under identical conditions). On the other hand, in all advanced cases the size of the single corpuscles was visibly diminished, in comparison with the normal ones. The corpuscles, besides, presented frequently, in these cases, a distinct strawberry or narcissus form (being garnished with small humps and points), and lacked, without exception, the capacity to form rouleaux; while the normal blood, examined at the same temperature, with the same serum or sugar solution, neither lacked this latter capacity nor showed those humpy corpuscles. On account of the often-demonstrated repetition of these conditions, I consider *the small size of, and the loss of cohesion, in the red corpuscles, as characteristic of the beri-beri blood, and the appearance of strawberry-like bodies, still easily recognized as red blood-corpuscles*

(*shrivelling*), *as a marked symptom of advanced cases. All* corpuscles in the blood, down to the smallness of detritus grains, were distinctly colored like the blood-corpuscles. No *colorless* corpuscles, transition-forms between red and white blood cells, could be found in the cases that came to notice, nor any cells of foreign animal and vegetable organisms.

"The spleen was not found enlarged in the autopsies. As far as notes on the matter exist, it was hard but somewhat brittle, of distinct design in regard to the trabeculæ, less distinct in regard to the follicles, and rich in blood. Amyloid degeneration was nowhere discovered."

ADDENDUM.

In conclusion, I wish to refer to an article of mine entitled, "Three Ships with Beri beri Outbreaks, shown to have had Extensive Formation of Carbonic Oxids during the Voyage: Analysis of Beri-beri Blood: Conclusion that Beri-beri is Nothing but Carbonic Poisoning of the Blood," in *Science*, July 28. In that article the following facts appear: There is no deficiency of red corpuscles, no anemia in beri-beri; but in all cases, without exception, a deficiency of hemoglobin; an increase of biliary matter, bilirubin, etc.; the corpuscles are bladder-shaped, and have lost their disposition to form in rouleaux; the deficiency of hemoglobin is due to the presence of oxids of carbon.

The same article contains an account of a coffee-laden ship from Java, whose cargo was carbonized during the voyage, and whose captain and three men died of beri-beri at sea.

I have also contributed an article entitled "Altitude in Spite of Humidity as a Cure of Beri-beri" to the American Climatological Association. In it I try to show that the altitudinal cure, the only really successful one used in Japan during the beri-beri season, is due to the influence of ozone on the blood of beri-beri patients. This influence M. Gerard thus defines: "Ozone transforms albumin into fibrin and hemoglobin into oxyhemoglobin. Its action, when prolonged on this fibrin in the nascent state, re-dissolves it and makes it incoagulable by acids and also by metallic salts. Ozone is the agent of the transformation of blood into fibrin, and the effects of ozonization are produced by the iron contained in the corpuscles, which iron, under the influence of a first ozonization, acquires the property of ozonizing ordinary oxygen."

The prolonged absence of the ozone influence, therefore, and the prolonged presence of its antagonistic carbonic oxids, we may safely conclude are the causes of the extreme fluidity of blood of persons dead of beri-beri. Beri-beri patients who have absorbed poison enough to destroy life show at autopsy an extremely free flow of blood, that is, a complete absence of plasticiity. Convalescents, on the contrary, show increased plasticity.

Messrs. Bertin-Sans and Moitessier show, in a very interesting article in the *Tribune Médicale*, September 10, 1891, that it is the presence of hydrogen and carbonic acid in oxycarbonized blood that prevents the total destruction of hemoglobin. By adding potassium ferrocyanid to oxidized blood, mixed with water, they obtained a solution of methemoglobin, which, heated with ammonium sulfid, gave the spectrum of oxycarbonized hemoglobin. They were able to free their solution from its oxid of carbon by sweeping it for twenty minutes with a current of hydrogen or carbonic acid, or else leaving it during five hours in a vacuum: the addition of ammonium sulfid called forth then only the spectrum of reduced hemoglobin. It will be seen by this that oxycarbonized hemoglobin—a stable combination—can be readily transformed into a mixture of methemoglobin and oxid of carbon. Upon this fact they found their method for ascertaining the presence of oxid of carbon in the blood.

IS IT DESIRABLE AND PRACTICABLE IN MEDICAL SCHOOLS TO TEACH METHODS OF INVESTIGATION IN MEDICAL LITERATURE?

BY BAYARD HOLMES, M.D.,
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READERS of American medical journals and medical books complain of the low literary standard of the majority of writers. Two-thirds of the bulk of our professional periodicals are devoted to avowed advertisements, while the reading pages are given up to articles frequently without literary excellence and of questionable motive. It may not be out of place to describe a recent effort undertaken to prepare a class of medical students to write intelligently on any medical subject.

This class consisted of thirty-six men, seven of whom had received the Bachelor's degree from reputable literary institutions, and one of the thirty-six had the Doctor's degree from one of the best Eastern universities. Of the others, eight read one language beside English, and four read two foreign languages. The German, French, Italian, Spanish, Scandinavian, and Russian languages were read by different members of the class. More than half the class were able to read without difficulty in at least one foreign language. There was no case of remarkable illiteracy in the class, and few of its members made any of the more flagrant infractions of the laws of grammar and rhetoric. All were eager, honest students, seeking for medical instruction and not for a diploma alone, as their presence in the class during the optional summer course sufficiently testified.

My own acquaintance with the class was intimate. My knowledge began with their preliminary examination, and was continued in a constant oversight during two previous years. It was furthered by one course of lectures to them, two examinations in bacteriology and six written exercises on the current surgical course. A large part of the class had studied composition for the sake of composition, while a few only held the labor of composition in contempt, and no amount of assistance or friendly

criticism could arouse these few to an application of the importance of a study of purity and clearness.

The object of the course was to assist those men that were already able to write English clearly and forcibly, to write on familiar medical subjects with a mastery of the existing literature.

A lecture was first given, designed to show the material of medical literature. In order to make the impressions more vivid and lasting, copies of the various serials were passed around the class for inspection. In this way especial attention was called to those great fountains of medical thought, such as the *American Journal of the Medical Sciences*, the *Lancet*, *Virchow's Archiv*, and the principal weekly journals of the United States. The more classical text-books were also described, and copies not familiar to the class were exhibited, and the method of consulting them was pointed out. One or two examples of systematic or encyclopedic medical storehouses, such as *Ziemssen's Cyclopedia* and the *Deutsche Chirurgie* of Billroth and Lücke were also exhibited and examined with reference to their future use.

With this limited survey of the material of medical literature my next effort was to show where and how this material could be consulted. The fact was pointed out that there were but five general medical libraries in the United States, and that all exhaustive work in medical literature must, for the present, be done in these five places. Attention was called to the library of the Surgeon General's office at Washington, because of its completeness, and to the Newberry Library, because of its nearness. Through the courtesy of the medical librarian of this library, Dr. G. E. Wire, these exercises were held in the lecture-room of the library, and all the material of the library was placed at our disposal, and every assistance offered for study. The method of indexing the library was briefly described, and each student was required to make the cards for at least one book, with cross-references. The use of the card-catalogue was then explained, and each man was required to pick out references on one subject.

This done, a full account of the method of literary research was given, with much stress laid upon *exact and permanent* notes. A lot of properly shaped tablets and covers were distributed, and every man was exercised in note-taking. All criticisms were made openly before the class, and after the criticism a rewriting was required when indicated. Thus, many of the technical difficulties were overcome before more serious difficulties were met.

When these preliminary studies were completed, those aids to literary research most complete and manageable were described and studied. First the *Index Medicus* was examined, and the plan upon which it is arranged and indexed was carefully studied. Each student had a bound volume of this serial before him. When a general idea of this work had been obtained and one subject looked up as an example, a series of subjects for theses previously arranged was distributed, and one subject, known to be not too liberally represented in the literature, was assigned to each student for a serious effort, and work was begun in earnest. The subjects were all in the line of the work required in the courses being pursued by the men to whom they were given.

When each man had consulted each volume of the *Index Medicus* and had made a list of all the references to the literature that he could find, a week was given for study. Students were advised to follow some such order as the following in preparing the theses:

1. Read the subject in text-books.
   (a) Anatomic. (b) Pathologic.
   (c) Clinical. (d) Historic.
2. Read the subject in encyclopedias.
3. Read the references in the serial literature.
4. Cast the thesis from the notes taken in the reading.

Again the class had the help of the librarian, Dr. Wire, in solving the difficult problems which come to the beginner in the course of such a study. Many of the articles referred to were not acceesible; many were not valuable when found, and some were difficult to utilize. A sufficient interest was, however, aroused to secure results far above that of any previous class-work that it has been my fortune to observe. Some men did their work thoroughly and exactly; others imitated exact work, but produced soulless stuff; while a few failed entirely after collecting with great labor an unmanageable mass of material.

At our next meeting three essays that had been completed were read one after the other before the class, and criticised openly by all. Other finished essays were retained by their writers because by this criticism they saw how to better them. A few who had done the work in the library, and were unable to cast their notes into a thesis, from lack of motive or skill in such work, were assisted by me and by members of the class who volunteered to help.

In addition to the *Index Medicus* and its supplement, the *Catalog of the Library of the Surgeon-General's Office*, similar instruction was given in the use of *Virchow and Hirsch's Jahresbericht*, *Schmidt's Jahresbücher* and the *Archives Générales de Médecine*, and when the subject suggested it, to similar publications in limited fields, such as *Baumgarten's Jahresbuch*, *Centralblatt für Bakteriologie* and allied publications. For the sake of simplicity, however, much was left to availability and individual needs.

Two weeks later all the theses were handed in to me,

together with all the notes and references. This was done so that not only the end-result of the study could be considered, but the method of work could be criticised.

If there were a medical journal for medical teachers alone it would be worth while to publish one or two of these essays, but space and the time of the general reader are too valuable to permit it here.

Many members of the class spontaneously expressed themselves as greatly pleased at discovering this new field of which they had before only indistinct conceptions. A few have continued their studies and are trying to get an exact and comprehensive idea of medical literature, hoping to be abe to do better work next year and after graduation. One man said that he never before appreciated the poverty of the medical curriculum or the absurd brevity of the ordinary course. He said that he saw, as he never had before, the need of the most liberal preparation for the study of medicine and the helpless condition of the unprepared to get the value and enjoyment from medical study which it affords.

This first experiment in teaching methods of thesis-making in medicine, though incomplete in many respects, satisfied me that the teaching of correct methods in literary investigation to our average medical student is perfectly practicable. It satisfied me that while the conservative bias for which medical students have frequently been reproached may lead many to begin this new subject reluctantly, the evident advantages that are to be quickly obtained arouse an interest and enthusiasm in almost every one sufficient to overcome the discouragements of a polyglot literature and an incomplete library. I can unhesitatingly and positively recommend that such a course be made an integral part of the curriculum of every medical school that aspires to be known for its means of education and culture.

CLINICAL MEMORANDA.

HOW POSITIVE MENTAL IMPRESSIONS PROMPTLY CURED A CASE OF HYSTERICAL BLINDNESS.

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IN the entire range of hysterical enigmas there is no more curious condition than that of complete suppression of an important sense—as, for instance, that of vision. In an eye to every physical appearance normal, blindness more or less suddenly is complained of; continues absolute for weeks, or months, or even years; and then miraculously disappears, leaving the organ in perfect working order.

How this long suppression is effected is one of the unsolved problems in physiology. We have evidences of the existence of this mental faculty when we use the microscope with both eyes open. The eye applied to the instrument can be made to receive impressions, while the other, equally capable, stares at the table in vacancy, unconscious of the presence of the many objects which this eye can take in upon its field of vision. We have also examples of this visual suppression in cases of squint. Here, to be sure, one of the eyes is usually more feeble in visual power. There are, however, many persons with alternate strabismus, in whom both eyes are of equal strength, and yet vision is completely suppressed in the diverted eye.

The accepted explanation is that the image in the eye improperly directed is received upon the marginal, insensitive part of the retina, and makes too feeble an impression for brain-interpretation. This reason is not always satisfactory. When the eye of an adult turns in or out, the sequence of paralysis of one of the eye-muscles, the same marginal portion of the retina transmits so vivid an impression as to produce an extremely annoying diplopia. In hysterical subjects the eyes remain in the correct position, and hence images are made on each central fovea, which is that portion of the retina designed by nature for the most perfect sight; and yet, while each eye is positively free from disease, one eye sees perfectly well and the other, according to the patient's statement, sees absolutely nothing. The cause to which this disturbance is usually assigned is a reflex irritation from some unrecognized distant lesion; but this is not satisfactory. In the case which I here report, there was no attempt to seek or to treat any local hidden cause, for none was suspected. The young lady was not of plethoric habit, but was in fairly good condition, although somewhat anemic. Her medical history was as follows:

Miss J. C. P., the daughter of a practising physician, had been taken from school on account of blindness in one eye, which had come on suddenly four months before. She was a well-grown girl, seventeen years of age, and had been brought up in affluence. Under parental professional care she had taken tonics for anemia, but the eye continued blind. At times she would complain of hemorrhages from this eye, and would show stained handkerchiefs in evidence of her statements. As the eye was at no time injected, and showed no external evidences of disease, the anxious father consulted an eye-specialist in his own State to aid him in the diagnosis. This ophthalmic surgeon suspected the true condition of affairs, called the disease hysteria, and advised a course of tonics. Vision, however, did not come back under this medication. After four long months of constant complaining the father and daughter came to Baltimore, seeking further medical advice. The patient gave a straightforward statement that with the right eye she saw perfectly well, but with the left eye she could not detect even light. She also reiterated her hemorrhagic experiences. Upon most careful examination, one eye seemed the counterpart of the other. There was no trace of any previous pathologic condition which could explain the reported hemorrhages or the

loss of sight. Either and both pupils acted uniformly under light-stimulation. Ophthalmoscopic inspection revealed no disease. The conclusion reached from the examination and the behavior of the eyes was that notwithstanding the innocent simplicity and evident truthfulness of the young lady, the blindness was a simulation, a true hysterical amaurosis. This diagnosis was made absolute when, after trying the weakest concave lens before the good eye, I substituted for it the strongest concave lens of the trial case. Although such a lens must destroy all useful vision when placed before a good eye, she could with equal facility read the No. 20 test-types at twenty feet. This was proof positive that she must have seen it with the blind eye only, yet when I substituted my hand for the strong lens she was, according to her statement, absolutely in the dark. Without hesitation I gave the diagnosis to the father that the blindness was altogether imaginary, and that I would cure her.

He had made arrangements to remain one week in Baltimore, and he requested me to proceed slowly to bring about the desired change without letting his daughter know our suspicions. I prescribed a simple tonic pill to which I assigned the power of curing her without fail. She was to take one three times a day, and they would require just three days to effect the cure; moreover, they would do it suddenly when the seventy-two hours had expired—no sooner, no later. I desired to see her each day at the same hour, avowedly to watch progress, but chiefly for the purpose of fixing the impression on her mind that at the time appointed the lost sight would surely come back. At the end of the third day, in going through the usual trial with the test-types she despondently complained still of no sight whatever in the blind eye, although she had faithfully carried out the treatment. To her the outlook was as black and as blank as on the day of her arrival in Baltimore. I took out my watch, which I continued to keep in hand, and in a positive reassuring tone said: "There lack yet five minutes, and in that time you will surely have evidences of returning vision." She would frequently close the good eye, watching for the promised awakening. Suddenly she exclaimed that the light was coming, and in a minute afterward that she could, with this blind eye, distinguish objects in the room. Before she left my office on that day she read with this eye the finest print, and gave every evidence to her delighted father that she had perfectly regained sight in it. She seemed quite as much pleased with the restoration as was her parent. The miraculous cure was not only complete, but also was permanent. It was another illustration of the many "faith cures" made by physicians and others, and of the influence which a strong mind can have over a weaker one.

CURE OF MASTURBATION IN A WOMAN BY NEURECTOMY.

BY J. S. EASTMAN, A.M., M.D.,
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EITHER from soreness of heart, disgust, or absolute despair, do we not too often neglect the unfortunate class of masturbators? We know full well that it is a habit that largely prevails, leaving in its wake a destruction of nerve-force and blasting lives. Having under my supervision one redeemed from the curse, built up from a tottering hopeless helplessness to a useful member of society, I am convinced that others can be similarly benefited.

A second reason for reporting this case is that I have been unable to find that any one has suggested an easier or more efficient relief than I offer. I further think my suggestion is in the line of conservative surgery, and may help to preserve the sex and spare the ovaries. Some of the most prominent gynecologists of New York assured me that clitoridectomy would be a perfect relief. Experts of San Francisco assured me that ovariotomy would bring the desired result. Many others of wide repute and experience did not even attempt a reply to my inquiry as to what might be best for such a desperate case.

My case was Miss A., twenty-six years of age, who came to me in September, 1890. Her hands were cold, covered with sweat, and she complained of sleeplessness at night. She was pale, haggard, and emaciated; she avoided society, had lost all interest in books, could not read with interest for five minutes. She was desperately dejected, and demanded relief. She had begun the habit at six years of age—one of the first things learned at public school. The indulgence was one or more times a week, and even as often as six times in one day. At the age of twenty years she had an opportunity to indulge in coition, and repeated it three or four times a week, but always without satisfaction, and generally with more or less pain. While she had the opportunity to have coition she still had sufficient control to enable her to resist self-abuse. When she could no longer practice coition without prostitution, she sought medical advice. Bromids and acid blistering were prescribed, and gave less contentment than an ordinary placebo. The next treatment was the placing of four silver-wire sutures through the labia majora, leaving the meatus urinarius free, and with the long curved ends of the silver wire pointing into the flesh, so that any manipulation would be painful, but still the habit prevailed. The electro-cautery was then applied to the parts, but unfortunately the resulting irritation aggravated the trouble, and she said the act was repeated fifteen times in one day. A council of numerous experts was then called. As her mother was an epileptic, and as the patient showed such symptoms as loss of memory, fainting-spells, and mild convulsions, it was decided to perform ovariectomy, from which she made a rapid and satisfactory recovery, without a single untoward symptom. A year rolled by, and all things seemed well, when the habit again returned as violently as before, and was indulged in both when awake and asleep. Then clitoridectomy was performed, and gave about three months' rest. But the symptoms grew worse than ever. She was now reduced in weight to ninety-eight pounds. She again returned to my office, and said she would gladly submit to any operation that promised relief. Almost in despair, fearing, as had been suggested, that her trouble was of central origin, I made another examination, and found her more sensitive on the left side of the vulva than the right. The fact suggested to me the desirability of a local paralysis. Accordingly, the following morning, in my office, the patient was placed under ether. I cut down upon the pudic nerve on the left side, and found the nerve very

considerably hypertrophied, and therefore very easily located. I dissected and removed about three inches of the nerve, sewed up the wound, and sent the patient home in her carriage. The wound healed promptly; the patient expressed herself as relieved from anxiety, and better in her general feeling than ever before. She has gained in weight from one to three pounds each month, until she now weighs 132 pounds instead of 98. She has become a great reader, enjoys company, sleeps well, and in every way seems restored to a normal condition. Many acquaintances have remarked how she has changed in manner, character, and looks, and she says: "the best of it all is I feel so much better."

Not only have all these desirable changes been wrought, but she has been absolutely free from her curse since the day the nerve was resected, which is now one year and a half ago. Of course, one case is not conclusive, but certain remarkable features of this case suggest the advisability of cutting out the nerve rather than the clitoris or ovaries, and it is certainly much the more simple operation.

CARCINOMA OF THE ESOPHAGUS.

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MALIGNANT disease of the esophagus is sufficiently rare to deserve more than passing notice. Of 9118 cases of carcinoma collected by Tanchon in 1851, only thirteen involved the esophagus. Mr. Butlin (London, 1882) collected but fifty-nine cases of carcinoma of the esophagus, while all records will hardly swell the number to two hundred cases. Yet carcinoma is far more frequent than any other variety of morbid growth in the esophagus, if not more frequent than any other form of esophageal disease.

In the following case the esophageal growth was primary; did not cause secondary infection, and was limited to the esophagus.

Joseph H., sixty years old, a married German laborer, gave a good family history; both patients lived to an old age and both died suddenly, the cause of death not being known. There was no history of carcinoma or of tuberculosis in the family. The patient's health was good throughout childhood and adult life.

In November, 1891, while eating an apple, the patient experienced a peculiar sense of constriction in the epigastrium, which continued thereafter. He was able to eat the apple and took solid food without inconvenience until February, 1892, when he found that he could no longer swallow solid food, even if masticated very finely. If the food were swallowed it would be ejected in two or three minutes, apparently not passing beyond the level of the larynx.

From that time he lived on liquid food. In September, 1892, he found that he had to take his liquid food in small quantities or else it would be thrown up.

He then began using the stomach-tube once a day and he thought that he was able to take a little more nourishment. On passing the tube he could feel it turn on itself. He was able, however, to wash out a quantity of "dirty water." Each day he had a small mushy stool.

The patient complained of a pronounced sense of weight, as though something were growing in the larynx. He had no cough, but at times a large amount of mucus would find its way into the throat and cause some inconvenience. He volunteered the information that he passed but little water, the quantity for three months not having been greater than six or eight ounces in twenty-four hours. Previous to this the amount passed had been fair. Examination of the urine showed a specific gravity of 1028, without albumin and sugar.

During the last year of life the patient lost forty-five pounds in weight, the greater part during the last three months. On physical examination a few moist râles were heard over both lungs. The heart-sounds were weak, but otherwise normal.

An ivory bougie, one-half inch in diameter, introduced into the esophagus, met with obstruction at a distance of twelve inches. A one-fourth inch bougie was also stopped at the same point.

On December 25, 1892, three weeks after the preceding examination, the patient died of asthenia. For a week before his death he was not able to retain any food at all.

The autopsy, made twenty-four hours later, revealed old adhesions over the lower lobe of the right lung. There was also some edema of both lungs. The right lung presented evidences of bronchitis. The heart and other organs of the body were normal.

One and one-half inches above the cardiac orifice of the stomach was found an annular tumor-mass in the walls of the esophagus, at no point more than two inches in vertical diameter. It was hard and nodular and almost completely closed the gullet. A fine probe could be pushed through the small opening without resistance. The mucous membrane over the growth was in a state of ulceration.

The tumor-mass was completely isolated. No secondary growths were found anywhere, and the bronchial glands were not enlarged.

The brain and the chord were not examined. Sections of the tumor-mass were made, and the growth proved to be a typical scirrhous carcinoma, with small spheroidal cells in the alveoli.

In this case there was no history of lancinating pain and no vomiting of blood.

The termination of the case occured one year and one month from the onset of the first symptom, and it was marked by progressive asthenia. No complications supervened.

Gastrostomy in a younger man might have been a useful operation. It was suggested to this patient and refused.

MEDICAL PROGRESS.

Acute Nephritis in the Newborn.—FREES (*Zeitschr. f. Geburtsh. u. Gynäkologie*, Bd. xxvi, H. 2, p. 426) has reported the case of a premature male child of a healthy primipara, in which three days after birth edema of the lower extremities developed, progressively increasing in intensity and extent. There was also jaundice. On the fifth day a cephalhematoma appeared upon the right parietal bone. There was no complication in connection with the umbilicus. The edema began to decline after

the seventh day, and was almost entirely gone by the tenth day. The jaundice at this time also began to disappear. Examination of the urine on the seventh day and subsequently showed that the quantity excreted was greatly diminished, and that albumin and hyaline, granular and epithelial tube-casts were present, together with red-blood corpuscles, renal epithelium, amorphous urates and detritus. The child manifested general apathy, refusing to take the breast, and losing decidedly in weight; the temperature remained subnormal throughout. On the twenty-sixth day improvement set in abruptly, the quantity of urine eliminated increasing, and the amount of albumin diminishing. The child rapidly gained in weight, and was soon perfectly well. It is thought probable that the condition was dependent upon undue irritation resulting from tardy solution of uric acid infarcts in a premature and feeble child. The urine of the mother was free from albumin before, during, and after labor.

Anuria for Eleven Days, with Recovery.—DURING (*Internationales Centralbl. f. die Physiol. u. Pathol. der Harn- u. Sexual-Organe*, B. iv, Heft 4, p. 181) has reported the case of a man, sixty years old, who had suffered for a number of years from gout and renal colic, the urine at times containing small calculi. On one occasion the man was seized with severe pain in the left loin and in the course of the left ureter. The testicle of the same side was retracted. A few drops of urine were passed from time to time at long intervals. There was also vomiting. From this time no urine was passed, despite the efforts of the patient. The bladder was found to be empty. Warm baths, douches, massage, and diuretics were employed, but without avail. On the third day uremic symptoms appeared: vomiting, eructations, somnolence, depression, restlessness, thirst, anorexia. In a short time copious diarrhea set in. On the eighth day the man's condition became alarming, the uremic symptoms becoming more pronounced. This condition continued until the eleventh day, when, while straining at stool, a large amount of bloody urine was passed by the urethra. The urine was not preserved and a possible calculus could not be looked for. During the first ten or eleven hours between twelve and fifteen quarts of urine were passed. The threatening symptoms at once subsided, and in the course of forty-eight hours the patient felt as well as usual.

Rupture of Tendon of Quadriceps Femoris: Tenorrhaphy.—KÖHL (*Corr.-bl. f. Schw. Aerzte*, 1893, No. 13, p. 454) has reported the case of a man who, in descending a declivity with a heavy weight upon his back, slipped and made a strenuous effort to maintain his equilibrium. In this he succeeded, but upon attempting to walk he found that he could not extend the right leg. The patella was in its proper place and movable laterally; on attempts at extension its relations were not changed. Above the patella a firm mass was appreciable; above this there existed a distinct depression, and a little beyond this there was a second resistant mass. It was recognized that the tendon of the quadriceps had been ruptured, and it was determined to expose the parts and suture the severed extremities. The rupture was found to be an irregular one, and to have taken place less than an inch above the attachment of the tendon to the patella. The proximal extremity contained three small cartilaginous nodules, which were removed. There was also one free nodule in the joint. After the extremities of the tendon had been sutured and drainage provided for, the wound was closed and the leg extended and encased in an immobile dressing. At the end of six weeks massage and flexion were instituted, and in a short time the man was able to resume his occupation, a slight impairment of flexion persisting.

Enteric Fever; Perforation; Recovery.—MCCALL (*British Medical Journal*, No. 1697, p. 62) reports the case of a woman, thirty-four years old, who, upon the sixteenth day of an attack of enteric fever, after eating half a dozen unripe plums surreptitiously obtained from a child, was seized with violent pain and vomiting and other evidences of collapse. The temperature fell to 97°, the extremities became cold, tympanites became marked, and death seemed imminent. Under stimulating treatment, including the application of warmth, the woman rallied and gradually improved. A considerable area of dulness formed in the cecal region and slight dulness in both flanks. On the twenty-second day the dulness over the cecum had become better defined, while that in the flanks was disappearing. Eleven days later fluctuation was detected in the midst of the cecal dulness, and poultices were applied until pointing took place. On the thirty-third day a small amount of matter was passed per rectum. Six days later eighteen ounces of badly smelling purulent fluid were withdrawn from the area of cecal dulness by means of an aspirator. After another interval of six days eight ounces more of pus were withdrawn. Thereafter convalescence set in, and perfect recovery ensued.

Epilepsy and Enteric Fever—LANNOIS (*Revue de Médecine*, No. 6, 1893, p. 492) has reported the case of a woman who had been paralyzed upon the right side from the age of eight months, and had had epileptiform seizures from the age of thirteen, when the paralysis became aggravated, and tremor appeared in the right lower extremity. During a protracted attack of phlegmonous erysipelas of the thigh the convulsive attacks remained in abeyance, while during a subsequent attack of enteric fever they recurred with increased frequency. That the mere elevation of temperature was not the real factor in the control of the paroxysms appears from the fact that it reached the same degree in both instances. It must, therefore, be concluded that the toxin of the streptococcus of erysipelas has a restraining influence upon the occurrence of epileptic attacks, while the toxin of the bacillus of enteric fever, on the contrary, rather favors the occurrence of the paroxysms.

A Coin in the Alimentary Canal for More than Nine Months.—KEARNEY (*Lancet*, No. 3644, p. 27) has reported the case of a child, a year and seven months old, who swallowed a copper coin about as large as a one-cent piece. A diet of boiled bread and porridge was recommended, but the coin was not passed. Four months later it became necessary to treat the child for bronchitis, the passage of the coin meanwhile not having been observed. At the expiration of more than nine months the coin was expelled, the child having been none the worse for the protracted lodgment of the foreign body.

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SATURDAY, AUGUST 12, 1893.

CHARAKA-SAMHITA.

IN these *fin de siècle* days it has become fashionable to affect to sneer at the mere suggestion of the possibility of there having been wisdom among the ancients. PUNDIT AVINASH CHANDRA KAVRITANA,[1] a member of a race that delights to trace its origins and find its exemplars in immemorial antiquity, has adopted the most effective means of answering and silencing such sneers, in the publication of an English translation—virile and idiomatic—of the oldest and most celebrated Hindu treatise on medicine. *Charaka-Samhita*, we should judge, bears much the same relation to the medicine of the East as the aphorisms of HIPPOCRATES do to that of the West. To the student of medical history the value of the work is inestimable; and the parts thus far published contain promise that there will likewise be some contributions of decided value to medical practice. As to this, however, we are not as yet prepared to express a more definite opinion. Certainly there are careful empiric observations, especially in the domain of materia medica, that deserve attention and investigation. While the hygienic rules are good and show that the ancient Hindu physicians were acquainted with much that passes for novel, yet they tell us nothing we do not already know. This detracts not from their historic value, but merely from their practical importance at the present day.

As is to be expected, we find among many wise and highly practical maxims others based upon superstitions of the time, local customs, or peculiar religious observances; but even our latest text-books cannot claim to be free from similar blemishes. How long is it since distinguished obstetricians practised and advised a most elaborate ritual, now happily almost obsolete, founded upon a superstitious, or, at least, irrational, awe of the microbe fetish?

Opening the work at random, we find among others illustrating a broad view of the fundamental principles of medicine, observations like these:

"Incurable diseases are . . . . of two kinds, those that are capable of being suppressed and those that have no treatment." "Even diseases that are incurable in consequence of the exhaustion of one's allotted period of life may be kept in a suppressed state by regulated diet and (proper) nursing."

Inseparable from the art of healing, in the ancient author's view, was the art of right living. But right living has not only a physical, but also a psychic aspect; and the psychic life is not only intellectual, but moral. Hence we find metaphysical analyses as well as elevating spiritual reflections and moral precepts intermingled with therapeutic and hygienic dicta. Again we cite at random:

"Emancipation can never be theirs whose minds are still stained by the faults of Passion and Darkness." "One should cherish emulation in respect of the causes of other persons' prosperity, but should never be jealous of that prosperity." "Keep the senses under subjugation." "One should wear every day clean and well-washed clothes; be always cheerful, and use agreeable perfumes." "One should bathe twice in the day, . . . always keep one's outlets (for urine and excrement) and one's feet perfectly clean and well washed." "One should constitute one's self the friend of all creatures, ... pacify the angry, reassure the frightened, redress the woes of the distressed." "The absence of harmony in respect of the ingredient humors (of the body) is disease; for their harmony constitutes our normal condition."

The subject of materia medica is extensively considered. Six hundred purgatives, five orders of astringents, remedies for vomiting and hiccough, agents that alter the color and consistency of feces, increase or diminish the excretion of urine, promote or allay sweating, etc., etc., are enumerated and classified. The editor gives in foot-notes the modern names of the plants specified. Much attention is paid to inhalation of the fumes of certain

[1] Editor of Chikitsa-Sammilani (Medical Journal in Bengali), Practitioner of the Hindu System of Medicine, etc., etc.

medicaments; thus there are described smokes for the nose and the throat, smokes for purging, etc. The directions as to the method of inhalation are precise, and failure is ascribed to departure from the proper routine. The subjects of heredity and re-incarnation are discussed from both theologic and medical standpoints. The work is published by subscription in fascicules,[1] of which five have thus far been issued. The rapidity of issue will depend upon the encouragement received by the editor. It is proposed to issue twelve parts yearly until the work is completed. As it is a substantial contribution not only to the history of medical literature, but also to the history of human progress in many departments of thought and knowledge, we trust that the subscriptions will be sufficiently numerous to insure the speedy completion of the publication. For ourselves we gladly acknowledge our debt to MR. KAVRITANA for the enlightenment and pleasure which we have gained from the pages his industry and enthusiasm have placed before us.

MOTOR AGRAPHIA.

SINCE Broca demonstrated the localization of the center governing the function of speech in the third frontal convolution of the left cerebral hemisphere, the most marked advances have been made in cerebral localization, and we may add, also, in spinal localization as well; but with this, however, we do not at the present moment wish to deal. Not only have centers been isolated that control the functions of different parts of the body, but it has been shown that the defect variously described as alalia, aphemia, or aphasia is a most complex one, constituted of numerous diverse elements, and in its relations not restricted to lesions of the left third frontal convolution. These lesions are responsible for the motor form of aphasia, the patient preserving the faculties of ideation and comprehension, but being unable to revive the motor mechanism of expression. If the power of expression in spoken language be at fault, the defect is termed aphemia; if the power of expression in written language, agraphia; if the power of expression by signs or gestures, amimia. Lesions of the auditory center in the adjacent first temporo-sphenoidal convolution and of the visual center in the angular gyrus occasion sensory aphasia. In addition, there may be impairment of the memory of words—amnesic aphasia. In conjunction with sensory aphasia there is likely to be an inability to recognize spoken words—word-deafness; or to distinguish sounds at all—mind-deafness; or an inability to recognize printed or written words—word-blindness (alexia); or to comprehend the significance of signs or gestures—apraxia; or to recognize objects at all—mind-blindness. These defects may be variously associated, with the result of giving great complexity to the clinical picture. Thus, in a case of word-blindness, the patient is equally unable to read and to write, either spontaneously or from dictation, or to transcribe. In another instance, he may be unable to write spontaneously, but may be able to transcribe. In this way we may have a sensory and a motor agraphia. CHARCOT and DUTIL (*Comptes rendus hebdomadaires des Séances de la Société de Biologie*, No. 24, 1893, p. 130) have recently reported a case that would seem to demonstrate that in addition to agraphia of sensory origin, resulting from a lesion of the visual center or in the path of the fibers connecting this center with the motor center for the upper extremity, there may be a motor form of agraphia which bears the same relation to written language that logoplegia bears to spoken language. The case was that of a woman in which, after an attack of right hemiplegia, with paralysis of the tongue, at the age of forty-four years, the ability to write spontaneously and from dictation was lost, although the ability to transcribe was preserved. There was neither word-blindness nor word-deafness. At the age of fifty-five, left hemiplegia took place, with complete loss of speech. A third and a fourth attack occurred at the age of sixty-one, and death took place at sixty-nine. At the post-mortem examination areas of softening were found in the cortex of the left central hemisphere, (1) at the posterior extremity of the second frontal convolution, and (2) in the middle portion of the second frontal; upon the right side, (3) at the anterior extremity of the third frontal and the posterior portion of the third frontal, extending into the ascending frontal; and (4) at the foot of the ascending frontal and ascending parietal; and (5) in the posterior portion of the ascending parietal. Two additional areas of softening were found at the base of the right hemisphere. The last and the third were thought to have given rise to no symptoms; the second and fourth to have caused the symptoms of pseudo-bulbar palsy that had been present; the fifth the paresis of the

[1] D. C. Dass & Co., 200 Cornwallis Street, Calcutta, India. Price, per part, 1 rupee: in advance, for the whole work, £3, post free.

left side of the body; while the peculiar form of agraphia was ascribed to the lesion at the posterior portion of the left second frontal convolution, where it is assumed the center for the coördination of the movements concerned in writing is situated. In the discussion that followed the presentation of the report, DEJERINE pointed out the difficulty of isolating and localizing a purely motor agraphia in the presence of a lesion of the motor speech-center, and of reconciling the hypothetic existence of a center for writing with the fact that this function may be performed by the feet as well as by the hands. The second objection does not appear to be a real one, for it can be conceived that the motor center for writing may be a higher one connected with the lower centers for the hand and the foot, either of which may govern the peripheral mechanism of the act of writing. The subject is a most intricate as it is a most interesting one, and much careful observation and thorough study will be required for its elucidation.

EDITORIAL COMMENTS.

Signing Medical Testimonials.—Not long ago the enterprising manufacturer of a much-advertised disinfectant sent around among the physicians of Philadelphia an attractive young woman, who asked for signatures to a certificate of the virtues of this particular article. To further her appeal, she exhibited a list of those who had already signed the testimonial. This list was a singular collection of names—illustrious and insignificant, regular and homeopath (another point of resemblance for a former President of the Philadelphia County Medical Society), writers and teachers of various degrees of fame or notoriousness, large-appearing men who need sign nothing, and little men—proud, perhaps, to sign anything—together, alas! with a number of editors of medical journals.

All these men, a curious and inquisitive examiner discovered, certified that "from an experience of many years in hospital, private, and household use," they were convinced that this so-called disinfectant "possesses most completely within itself *all* the *radical and essential elements required for complete disinfection!*" And, naturally, they "heartily indorse and commend its use, not only to the profession, but to the public in general."

But what they certify to is false. Neither this odorless deodorizer and colorless decolorizer nor any other like preparation fulfils the conditions of the testimonial referred to. Many a gallon of it is, by medical sanction, wasted in sprinkling sheets hung across doors behind which contagious diseases are at work, or stands uselessly in saucers in rooms where disease-germs are holding carnival. But everybody who knows what every medical adviser ought to know, knows that no disinfectant whatever can act at a distance, that no "ides" or "ines" of any kind can kill a germ unless its head is held under it; that stories of aërial disinfection belong to a class of fables that it is not prudent to tell to enlightened men and not quite honest to tell to those who confide the care of their health to us.

There are those who, thinking of these things, decline to sign such false and foolish testimonials as the one referred to. But those who sign—why do they do it?

The Relation of Wealth to Health.—Mr. Marcus T. Reynolds is the author of the prize essay of the American Economic Association on "The Housing of the Poor in American cities." It is a work full of instruction, and inspired by the noblest spirit. From it we learn the unexpected fact that the death-rate of the tenement-house population of New York is slightly lower than that of the remaining population of the city, or, in other words, that the death-rate is highest in the houses containing the fewest inhabitants. It seems that the death-rate of persons of five years of age and over decreases with the increase in the number of tenants, while the death-rate of children under five years increases until there are more than eighty tenants to a house, after which it decreases. The explanation of Mr. Reynolds is that the tenants of the larger houses are under closer sanitary inspection, and also that the removal thence of the sick to hospitals is more frequent. He suggests, too, as a possible reason for the lower death-rate of "the poorer classes," that "they pass much of their lives out of doors, and when indoors live in rooms without carpets or papered walls to catch and propagate microörganisms, with bare floors that are washed frequently."

"The Union for Public Good," of Baltimore, is an organization that deserves both success and imitators. Its scope may be considered rather large, but its *raison d'être* consists in the truth of the old saw that what is everybody's business is nobody's business. There are thousands of abuses and injuries to the public health in every city that go on because it is nobody's business to call attention to them or to try to make headway against them. When the Englishman is offended at something of the sort he grumbles, writes to the *Times*, and then—the nuisance goes on as before. The purpose of the Baltimore society is to promote the good government, health, and prosperity of the city, etc. In short, it is a general grievance committee, which proposes to remedy public moral and physical pathogenic tendencies and habits, so far as they affect the public health and well-being. The medical profession is well represented in the association, and certainly has by its aid an excellent opportunity to make effective many measures of sanitation and preventve medicine.

Increase of Insanity and Pulmonary Tuberculosis Among the Negroes of the South.—The responsibilities and struggles of the Southern negro resulting from his sudden manumission are sadly affecting his health. According to Dr. Powell, superintendent of the Georgia State Asylum, there are now over a thousand insane negroes in Georgia, while thirty years ago there were but forty-five. Greater accuracy in reporting cases doubtless explains only a part of the increase, but Dr. Powell attributes about 75 per cent. of the insanity directly or indirectly to the use of alcoholic liquors, which the slave

could not get. Hence is again illustrated the old truth, that there may be too much freedom. As to pulmonary tuberculosis, Dr. Hubbard, of Nashville, Tenn., shows by the health-reports of six Southern cities that the mortality from this disease is four times as great as among the whites.

The Temperance Education Movement has for its object the utilization of the public schools as means of teaching physiologic temperance. The movement deserves all praise, and is evidently slowly securing the success that comes from an intellectual and determined grappling with the sources of evil. It is said that the study is legally made mandatory in every public school in thirty-six of forty-four States, and in every school under Federal control. The want hitherto of the requisite text-books, information, and systematization concerning the study has so far been a serious drawback. But next year a volume for teachers is to be issued, entitled *Normal Studies in Physiological Temperance*, and a series of monthly advices is now issued with the title of "Scientific Temperance," under the superintendency of Mrs. Mary H. Hunt, of Hyde Park, Mass.

A Pan-American Pharmacopeia is proposed by the officers of the Section on Materia Medica and Pharmacology of the Pan-American Medical Congress. This is a healthy movement, and should receive hearty professional support. All great sciences tend to unity, and especially as to their instruments and methods. The pharmacopeia is a body of rules and methods that should be uniform for all physicians. It is a pity that different nations should not have a common pharmacopeia, and this attempt to amalgamate and unify the pharmaceutic and pharmacologic sciences and practices of the American people should enlist the coöperation of those who attend the Congress. The President of the Section is Prof. Joseph P. Remington, and the Secretary is Prof. F. G. Ryan, No. 3739 Brown Street, Philadelphia, to whom communications may be addressed.

Tracts for the Prevention of Tuberculosis for Gratuitous Distribution are now offered by the Pennsylvania Society for the Prevention of Tuberculosis (E. Leslie Gilliams, 727 Walnut Street, Secretary), Philadelphia. These tracts are written in common technical language, so that the laity can understand them, and physicians should make themselves local distributing agents for scattering among the community the knowledge of the simple and highly-important means of preventing the spread of the "king of diseases." Membership in the society costs only one dollar.

Charity-organization.—All who are interested in charity-organization, the proper distribution and use of alms, the sanitary improvement of the poor, the proper relations of the hospitals to the community, etc., should procure a copy of the Fifteenth Annual Report of the Charity Organization Society of Buffalo, N. Y., a pamphlet that shows what noble efforts are being made and what splendid success is being achieved in the special fields chosen. Every city should have such a society, and physicians should be leaders in the movement.

SOCIETY PROCEEDINGS.

AMERICAN NEUROLOGICAL ASSOCIATION.

Nineteenth Annual Meeting, held at Long Branch, N. J., July 25, 26, and 27, 1893.

FIRST DAY—JULY 25TH.

The President's Address was delivered by DR. HENRY M. LYMAN, of Chicago. He called attention to the predisposing causes of diseases of the nervous system, and said that the simple recognition of disease is not sufficient; etiologic classification is also necessary. He then dwelt upon the subject of rheumatism affecting the nervous system, the marked forms of which, chiefly affecting sensation, are not so commonly recognized and are frequently ascribed to other causes. They are usually observed in elderly persons of nervous temperament and arthritic diathesis, and differ from many other similar disorders of sensation in being transient, migratory, and of brief duration. Among these ailments is a prickling of the surface of the skin, often universal, but sometimes limited to certain points, where the patient experiences a sudden sharp prick, like a flea-bite. Another disorder of cutaneous sensation often affects the scalp, and is occasioned by irritation of the superficial nerves of that region. The duration of the attack rarely exceeds a single day. Closely associated with these disorders are the various transient perversions of sensation that may be felt in the Eustachian tubes, the pharynx, and about the fauces. Another of the symptoms of masked rheumatism is a peculiar and disagreeable feeling in the tongue. This sometimes assumes the severity of a genuine neuralgia, and manifests a greater degree of persistence when associated with obesity, diabetes, or gout than when related to rheumatism alone. The esophagus and fauces and sometimes the muscles of the eyeballs are similarly affected. Often there is a paroxysmal cough, associated with headache. The most distressing of all these forms of pain is gastralgia. The previous history and the concurrence of other rheumatic symptoms of a more stable character will, of course, add greatly to the certainty of the diagnosis.

DR. SMITH BAKER, of Utica, read a paper entitled "Heterogeneous Personality," which he defined as that condition in which the characteristics of ancestry are not blended into a permanent whole. He reported the case of a little girl who presented frequently recurring attacks of functional perversions and distress, which could not be satisfactorily explained except upon the inference that the dissimilar traits noticeable in her grandparents had not been blended in the personality of her mother and so had proved to be the ground-field of the grandchild's affection. The question as to the legitimacy of such a view can never be answered intelligently until the commoner facts of family life shall have been more minutely studied. Thus, such trite matters as dreams, somnambulism, the solving of problems unconsciously, or subconsciously, the up-rush of facts and arguments in the act of composition, and the play of genius, should be investigated.

Inquiries in states of acute illness, and the study of moods and transformations of character, etc., all

should receive more attention by physicians in order that causation in cases of functional derangement may be the more accurately conceived. In doing this, assistance may be found in many instances of so-called reflex disease. Heterogeneous personality should always be looked for in the neuropathic constitution; but more particularly is this of use in considering the problems presented by neurasthenia and the sexual perversions. Not so frequently, perhaps, is the trouble owing to the commonly assumed overwork, etc., as to the unceasing warfare within between the "lower" impulse and the "higher" determination. Students, professional men, and many others whose physical abnormities or mental peculiarities reveal the sensitive, easily impressed nature, are especially prone to be victims of the uncoalesced personality. Its bearing upon questions of marriage and parentage renders it worthy the attention of all.

DR. LYONS, of New York, referred to the opposite sides of character as seen among the insane. An educated woman may be agreeable and lovable in her normal condition, but vicious when in the abnormal state. The case of a patient was related who would frequently apologize and do her utmost to resist the impulses to do wrong. The opinion was expressed that such behavior might be due to abnormity in the development of the cerebral hemispheres or to some interference with the circulation.

DR. PARSONS, of Sing Sing, expressed the view that the tendency to evil thinking and acting observed in some persons might be overcome by suitable environment. The absence of restraint, after a time, permits of a continuance or permanency of the abnormal condition.

DR. HINSDALE, of Philadelphia, spoke of two authenticated cases of double-consciousness. He maintained that the medico-legal features of such cases, as well as those of changes in personality, are of special interest and should be reported and carefully analyzed.

DR. SEGUIN, of New York, held that atavism is the more rational explanation. Blending of the characteristics of ancestors occurs normally. It is not right to confuse double-consciousness of an epileptic nature with conflicts of character and personality.

DR. J. J. PUTNAM, of Boston, said that the treatment rested upon the systematic development of character. Hypnotism has taught much in regard to this condition, and brings out in a striking manner certain phases of character. He recommended the development of the inhibitory powers.

DR. F. X. DERCUM, of Philadelphia, stated that the case reported by Dr. Baker recalled the fact that there is lower vitality at certain epochs in women. Relationships between states of health might account for the peculiar mental variations.

DR. BAKER referred to the various definitions of personality as not being sufficiently inclusive of the facts to be of accurate use. He urged the importance of the study of the subject, especially in its bearing not only upon the causation of actual disease, but in its relation to educational ideas and practices as found to-day in our school-system. In this way may be found means of obviating detrimental traits, and also of making dominant those more desirable and healthful.

DR. MATTHEW D. FIELD, of New York, read a paper entitled "Detention-Hospitals for the Insane." After speaking of the wrongs inflicted upon the insane by committing them to county jails and prisons, there to mingle with tramps while awaiting the appointing of physicians to pronounce upon their mental condition, he gave a description of the Reception Pavilion for the Insane at Bellevue Hospital, and the methods of examination and commitment by the city examiners. He declared the pavilion to be in every respect a hospital, with resident physicians and competent trained attendants. Though a plain and inexpensive building, it served its purpose very well. He advocated the establishment in all large cities of similar hospitals for the reception of those suspected of lunacy. He said that an ideal institution for this purpose would be a hospital constructed on the pavilion-plan for the reception of the insane, inebriate, and neurotic, with a small amphitheater and sufficient wards for proper classification and detention for a reasonable time. A competent visiting, resident, and examining staff of medical officers should be chosen and clinical instruction regularly given. Such a hospital would secure prompt, humane, and scientific treatment. The opportunity for longer observation, securing histories and examinations, would result in more complete and accurate certification. There being no need for hasty transfer to other institutions, the feeble, sick, and certain selected cases could be detained for treatment, and clinical instruction would be easily accessible to the entire medical profession.

DR. KNAPP, of Boston, said that there are no detention-hospitals in Boston, and that no urgent need for them has been felt under existing laws. A few emergency cases requiring immediate restraint are admitted to the general hospitals. Otherwise they can be taken at once to the nearest asylum on emergency certificates. These consist of two separate certificates. A bond must be given by the superintendent, or one of the physicians, to the effect that the patient is to be formally committed, or released within five days. This system has proved eminently satisfactory, and has rarely been abused.

DR. MILLS, of Philadelphia, stated that the method described by Dr. Field is in vogue at the Philadelphia Hospital. There is a detention-ward for isolating cases of insanity. Two physicians are assigned to examine these patients before commitment. This ward has also been used for several years for clinical instruction.

DR. PRESTON, of Baltimore, remarked that the lunacy laws of Maryland are inadequate. Endeavors are being made to establish a detention-ward. At present insane patients are kept at police-stations, as no general hospital is prepared to receive them. This method of dealing is entirely unsatisfactory.

THE PRESIDENT said that in Chicago there is a detention-ward in the City Hospital in which cases of insanity are kept until transferred. The commitment laws of Illinois are now quite satisfactory.

DR. FREDERICK PETERSON, of New York, read a paper upon "The Temperature in General Paralysis of the Insane," which was based upon observations, made with the assistance of Dr. Langdon, on twenty-five cases in the wards of the Hudson River State Hospital for the Insane. The temperature was taken every two hours for one week in each case, and in ten cases in the two axillæ simultaneously from every two to four hours for a week.

It was found that the average bodily temperature corresponded with physiologic norms. The diurnal oscillations also corresponded to physiologic norms. Asymmetric axillary differences were so small that they could not be considered as abnormal, and certainly not of any diagnostic significance.

When unusual variations of temperature occur in general paretics, the cause must be sought for in conditions not related to the pathologic phenomena, but depending upon other thermogenic features unrecognized by the physician, or "masked" by the mental state of the patient. Thus, in one case an increasing hyperpyrexia was noted during the seoond week, but the pneumonia causing it was "masked" until the fifth or sixth day, the patient dying on the sixth day. In another case, in which the highest single daily oscillation was 3.4°, and the average daily oscillations for the week 2.2° Fahr., the patient had bedsores on the sacrum and heels, and was undoubtedly septicemic. That the temperature might vary in the paralytic seizures of these cases was not gainsaid, no observations having been taken in such conditions.

DR. GRAY, of New York, said that a large number of different pathologic conditions are often included under the name of general paresis. Some represent the terminal stages of intra-cranial syphilis.

DR. CHARLES K. MILLS, of Philadelphia, said that the diversity of the manifestations of general paresis will account for the different experience of various observers.

DR. JOSEPH COLLINS, of New York, read a paper entitled "The Anatomical Changes in the Spinal Cord in an Old Case of Infantile Paralysis," demonstrating numerous sections and reporting the history of a case.

DR. G. M. HAMMOND, of New York, read a paper on "Progressive Muscular Atrophy." He exhibited microscopic specimens and made a pathologic report of two cases, and referred to the fact that considerable confusion is occasioned by the misapplication of the term "peroneal type" to a disease totally dissimilar to the one under consideration.

The first patient was a woman, forty-six years old, without a history of gout, rheumatism, or syphilis, who, a few days after stumbling over a chair and bruising the right shin slightly, was unable to walk as well as previously. In a little while marked weakness of the flexors of the foot and the extensors of the toes developed. In the course of a year there was complete paralysis of the entire right leg, with reaction of degeneration, loss of power, and of electric contractility in the anterior tibial muscles of the left leg, and atrophy and loss of power in the thenar and hypothenar muscles of the right hand. Gradually but rapidly the other extremities became involved, and ultimately the abdominal and intercostal muscles were affected. Death took place suddenly from either cardiac or respiratory paralysis.

The sections of the cord showed sclerosis of the pyramidal tracts and atrophy of cells in the anterior horns, and degeneration of Gowers' column throughout its entire extent. The conclusion to be drawn from the clinico-pathologic study of this case is that the muscles of the hand were supplied from the mesial group, and the muscles of the forearm from the anterior group of cells in the anterior horn.

In the second case the disease only affected the muscles of the left thumb. The patient was under observation for eleven years. The case ran the usual course, and was in every way typical. At the time of death all of the muscles from the level of the armpits upward, except the facial muscles, were atrophied, as well as those of the upper extremities. The woman became maniacal, and finally died from exhaustion.

The cord and medulla were examined, and the changes were identical with those described in the preceding case.

The conclusion was reached that these cases demonstrate that progressive muscular atrophy is due to a degeneration of the cells in the anterior gray masses and the antero-lateral white columns; also, that it is superfluous to divide progressive muscular atrophy into different types, because the disease does not invariably begin in the same group of muscles.

DR. SACHS said that while there could be no doubt that the Aran-Duchenne type is of spinal origin, it is not certain that the case of Dr. Hammond represented the peroneal form of progressive muscular atrophy as described by Charcot, Tooth, Hoffman, and himself. If the case were such a one, the findings in the spinal cord would have been of great importance. There is yet doubt whether the peroneal form represents a spinal disease or a peripheral affection.

DR. PUTNAM referred to a case of progressive muscular atrophy in an adult in which there was rapid destruction of gray matter throughout the cord. Despite the violence of the process, portions of the anterior and lateral cell-groups were preserved.

DR. F. X. DERCUM, of Philadelphia, read a paper entitled "Optic Neuritis, Blindness, Deafness, and the Knee-jerk in Cerebellar Disease." He said that many of the symptoms of cerebellar disease are both inconstant and variable. They are difficult of explanation and frequently impossible to correlate.

Seven cases were reported in which optic neuritis, blindness, deafness, and modifications of the knee-jerks were present.

It is a matter of common experience that high grades of neuritis may exist without marked impairment of vision. It seems, therefore, that the added symptom of blindness gives a special significance to the optic neuritis found in these cases. It appears that if for any reason optic neuritis is present in cerebellar disease, it is likely to be intense in degree, and sooner or later associated with total blindness.

The proximity of the quadrigeminal bodies has naturally suggested itself as in some way explaining this blindness. The ataxia and titubation at once suggest disease of the vermiform process. Anatomic considerations, as well as the results of the autopsy in one of the cases, show that if a growth be situated in the vermiform process, especially anteriorly, and if the growth continue to enlarge, it will sooner or later press upon the superior cerebellar peduncles and very probably upon the quadrigeminal bodies themselves. If the relation of the fibers of the optic tract to the primary optic centers be recalled, it can readily be understood how a neuritis should result if pressure or irritation occur at this point. The directness of the irritation will explain why the neuritis should be of a high grade, and, sooner or later, associated with total blindness.

The deafness present in some cases of cerebellar tumor may perhaps be explained in a similar manner. The studies of Spitzka, Monakow, and others, have made it extremely probable that the posterior quadrigeminal bodies stand in the same relation to the auditory fibers as do the anterior to the optic fibers. It would simply be necessary, therefore, that the pressure involve these structures in order that deafness should be a symptom.

The condition of the knee-jerk presents a problem of peculiar difficulty. The loss of knee-jerk in disease of the cerebellum may be ascribed to loss of muscle-tonus.

It is extremely probable that lesions of the cerebellum act as do lesions elsewhere, in one of two ways, *i. e.*, either by destroying tissue, and thus destroying function, or by causing irritation. It is, perhaps, in this way that the fact can be accounted for that in some cases of cerebellar disease the knee-jerk is absent and in others present or even exaggerated.

When the disease was advanced there was loss of reflex action to light.

DR. PUTNAM spoke of a case of long-standing optic atrophy, with practically no other symptom. Although the optic neuritis persisted for two years, the autopsy showed a cyst and tumor of the cerebellum.

DR. PRESTON said that he had noted loss of the muscular sense in two patients. In four cases the knee-jerks were irregular, disappearing and occasionally returning.

DR. KNAPP said that in all of his cases confirmed by autopsy there was neuritis or optic atrophy. In one case in which a cerebellar tumor was suspected, neuritis had not developed. Blindness had not been so constant. In another case the light-reflex was lost when the pupils became dilated. Pressure on the corpora quadrigemina is most likely to produce blindness. Dr. Knapp has never noted deafness. He considered untenable the view that disease of the middle lobe of the cerebellum is responsible for the ataxic gait.

DR. LESZYNSKY, of New York, expressed the view that the concomitant basal meningitis has much to do with the production of the optic neuritis, by extension of the inflammatory process along the nerve-sheath. In many cases the neuritis is a late symptom. When the neuritis or optic atrophy is accompanied by loss of light-perception, the pupillary reflex is always absent.

DR. C. L. WALTON, of Boston, read a paper entitled "A New Method for the Reduction of Dislocation of the Cervical Vertebræ." In illustration of the method, let it be supposed that the left articular process of one vertebra has slipped forward over that of the vertebra below, and has fallen into the depression anterior to the articular process. This bends the head to the left, and turns the face to the right. The reduction is accomplished by extending the head diagonally backward to the right, so as to elevate the articular process, after which rotation to the left replaces the displaced vertebra. The transverse processes on the right act as a fulcrum. The ligaments that hold the vertebra firmly in the false position make no opposition to this maneuver, which requires no force.

In bilateral dislocation the same movements should be made, first on one side, then on the other.

SECOND DAY—JULY 26TH.

DR. C. L. DANA, of New York, read a paper entitled "Akromegaly, Gigantism, and Facial Hemihypertrophy." He related the history of a case of akromegaly with autopsy, and that of a case of gigantism or somatomegaly with some symptoms of akromegaly. The giant had a unilateral facial hypertrophy. The first case was in a full-blooded Bolivian Indian who was exhibited as a giant. He was thirty years old, 6 feet 7 inches high, and weighed 300 pounds. The malar and frontal bones were enormously developed. The thorax measured 50 inches in circumference. Death took place suddenly. On autopsy, the brain was found normal, weighing 55 ounces. The pituitary gland was greatly enlarged, measuring 1 inch in diameter. The thyroid gland weighed 4 ounces. The feet and hands had increased in circumferential measurements. The brain presented interesting peculiarities of fissuration.

The second case was in a professional giant, nineteeen years old, 7 feet 5 inches tall, and weighing 350 pounds, whose muscular development was feeble and who presented several symptoms resembling those of akromegaly. A most curious condition was a progressive unilateral facial hypertrophy, due mainly to osseous growth. It suggested akromegaly attacking only half of one extremity. Only eleven cases of this affection are on record.

Dr. Dana said that akromegaly is sometimes associated with gigantism. He held that many so-called giants are instances of pathologic growth rather than excessive physiologic development.

There is much evidence to show that the pituitary gland has some relation to these disorders. Among twelve autopsies, this gland was found enlarged in ten.

DR. DERCUM said that akromegaly is not associated with increase in the length of bones but in their width. He regarded Dr. Dana's case as one of gigantism with akromegaly superadded.

DR. GRAY said that it is a question whether akromegaly and gigantism are not identical. The pathology of akromegaly is not yet clear.

DR. COLLINS held that akromegaly and gigantism are two separate diseases. In gigantism the changes are in the cellular structure of the diaphyses and epiphyses, principally the former. In akromegaly the changes are confined to the epiphyses. Probably the disease of the pituitary gland stands in a causative relation to akromegaly. Giants may suffer from akromegaly, which is a degenerative disease.

DR. PUTNAM said that he has seen temporary improvement in one case from the administration of thyroid extract.

DR. SACHS expressed the opinion that akromegaly and gigantism are related. Gigantism is a form of physiologic excess, while akromegaly is a distinct morbid condition.

DR. WEBER, of New York, had seen two cases. One had symptoms of myxedema. He was inclined to believe gigantism to be excessive physiologic growth.

DR. MILLS related that he has, after death, found a tumor destroying the pituitary gland in a case in which during life there has been no akromegaly.

DR. J. J. PUTNAM, of Boston, read a paper entitled

"Thyroidectomy in the Treatment of Graves' Disease." After calling attention to the fact that this procedure has been carried out some forty times, mainly by German surgeons, with but two deaths and a very large percentage of cures or improvements, he narrated the case of a young woman suffering from a typical form of Graves' disease, of nine months' standing and with a rather large goiter. The right lobe and most of the isthmus were removed. During and after the operation the patient's pulse ran up very high, and for several days she lay in an extremely prostrated, and apparently critical condition. She then rallied, and at the end of six months her condition was decidely better than before the operation, though far from being cured. The remaining portion of the tumor did not shrink and showed a marked tendency to vascular enlargement. The voice was reduced to a whisper immediately after the operation, but subsequently nearly recovered its natural tone.

The reasonableness of the operation lies in the fact that in Graves' disease certain nervous centers are in a state of extreme irritability. Any means that will cut off a considerable number of excitations from reaching the unstable centers is likely to be beneficial by securing for them a partial physiologic rest. There are various means, such as complete rest, the treatment of the nasopharynx, etc., that may do this in a measure, but no one means is so effectual as thyroidectomy. The operation is, however, attended with a slight risk of death, and with a greater risk of considerable temporary prostration and laryngeal paresis.

DR. WEBER said that he has noted recovery in a patient possessing all of the characteristic symptoms, under the persistent use of potassium iodid. The dose was gradually increased to three drams daily.

DR. B. SACHS, of New York, read a paper entitled "Tabes and Syphilis." In support of the close relationship between syphilis and tabes he pointed out the frequent occurrence of general paresis in association with tabes, and of tabes in the course of general paresis; the occurrence of symptoms in the course of tabes that are often due to syphilis; the ocular palsies; the loss of pupillary reflexes and even the lightning-pains; the effect of treatment with mercurials and iodids upon many of the symptoms of tabes.

A clinical differentiation of cases of tabes which are due to an active syphilitic process was attempted. Among such cases were included those that exhibit complete loss of reflex contractility of one or both pupils, and ocular palsies. A case of typical tabes was reported *in extenso*, in which on post-mortem examination a more recent syphilitic process was found superimposed upon an old typical sclerosis. It was pointed out that the spinal sclerosis may result from degeneration brought about by syphilitic disease of the bloodvessels of the cord. Altered states of the blood may be the prime cause of changes in the bloodvessels.

DR. PRESTON maintained that the syphilitic process is an arterio-sclerosis. Rarely is there hyperplasia of neuroglia without changes in the cells or nerve-fibers. The tabetic process probably begins in the bloodvessels. Traumatism seems to be an important etiologic factor. Improvement and relief of pain have followed the use of nitro-glycerin.

DR. MILLS stated that preceding the development of the sclerosis there may be leptomeningitis and disease of the vessels, which if attacked early might be relieved or removed, but the sclerosis once established, recovery becomes impossible. Posterior sclerosis often advances at intervals by jumps, and these may sometimes be coincident with or may follow the revival of active syphilitic processes.

DR. PARSONS referred to two cases of syphilis, followed by insanity and the subsequent development of spinal symptoms.

DR. SEGUIN stated that he still adheres to the idea that syphilis is only a predisposing cause for the groundwork of tabes. Certain cases occur that are undoubtedly free from any history or evidence of syphilis.

DR. KNAPP mentioned a case of primary syphilis superadded to tabes of two or three years' standing.

DR. WM. C. KRAUSS, of Buffalo, exhibited a new pedodynamometer. The apparatus consisted of a wide, heavy belt, with its inner surface padded, so that its adjustment around the waist will not be uncomfortable. A heavy webbing is looped through the belt, passing over the shoulders and helping to retain the belt in position. A common dynamometer is connected with the belt by means of a strong adjustable strap, permitting it to be lengthened or shortened, according to the stature of the patient. Connected with the dynamometer is a stirrup, the base of which is padded for receiving the foot. Pressure exerted upon the stirrup will be registered upon the dial of the dynamometer and the exact strength of the extensors of the leg can thus be ascertained. The apparatus can be applied either in the standing or in the recumbent posture. The leg should be flexed at the knee at an angle of about 90°. To determine the strength of the calf-muscles the strap should be lengthened and the foot flexed upon the leg.

DR. JAMES H. LLOYD and DR. DAVID RIESMAN, of Philadelphia, presented a joint communication entitled "Infectious Endocarditis with General Septicemia, Complicated with Multiple Neuritis," founded upon the report of two cases.

The first occurred in a man with a typhoid type of fever which had continued for three months, and was complicated with multiple neuritis. The diagnosis of typhoid fever was excluded. The neuritis was irregularly distributed. The patient gradually developed an aortic regurgitant murmur, with a water-hammer pulse. Later, a purpuric eruption appeared. A diagnosis was made of infectious endocarditis, with secondary septic neuritis. At the post-mortem examination immense vegetations were found on the aortic valves, with infarcts in the spleen and in one kidney. Sections of the spinal cord and nerves were shown, exhibiting slight posterior sclerosis of the cord and extensive inflammation of the nerves.

The second case, also in a man, simulated typhoid fever, with yellow-colored stools. At the post-mortem examination multiple abscesses in the brain, a large embolus in the left brachial artery, and an infarct in one kidney were found, togther with a giant-growth of vegetations as large as a pullet's egg attached to the inner coat of the aorta, overhanging the orifices of the innominate, carotid, and subclavian arteries.

DR. C. L. WALTON, of Boston, read a paper entitled "Tumor of the Angular Gyrus," in which he detailed

the history of a case presenting temporal and occipital headache, vomiting, paralysis of the left abducens, double optic neuritis, hemianopsia, word-blindness, aphasia, and word-deafness. An operation was attempted, but the tumor proved too large and diffuse for removal, extending into the temporal, occipital, and parietal regions. The patient lived two months, with comparative relief from pressure-symptoms, including the abducens paralysis. Toward the end the right hand and arm became somewhat paretic. Examination showed the growth to be a glioma.

DR. SEGUIN suggested that the ocular symptoms were probably not due so much to lesion of the angular gyrus as to involvement of the fibers of the fasciculus opticus which lie immediately under it.

DR. E. D. FISHER, of New York, read a paper entitled "Congenital Cerebral Hemiplegia, with Autopsy." He detailed the history of a case presenting complete right hemiplegia, with marked atrophy, exaggerated reflexes, epilepsy, and imbecility. The cranial measurements showed morbid deficiency in the binauricular diameter and facial length. At the autopsy the left central hemisphere was found much atrophied. The right cerebellar hemisphere was also atrophied. The microscopic specimens showed a decrease in the number of cortical cells, but those present were not much diminished in size. There was some loss of acuteness of the angles of the cells, but little pigmentary or granular changes. The cord was but slightly affected.

DR. CHARLES K. MILLS, of Philadelphia, read a paper entitled "Lesion of the Thalamus and Internal Capsule." The patient had an apoplectic attack in 1877, and died in 1892. The symptomatology of the case included hemianesthesia; paresis with contractures not marked; inability to recognize the position of the affected limbs. Hemianopsia and all affections of the special senses were absent, as were also athetoid and choreoid movements. The autopsy disclosed a hemorrhagic cyst, which had destroyed about two-thirds of the substance of the thalamus, including the entire external tubercle and a large portion of the pulvinar. The anterior extremity and the internal and inferior surfaces of the thalamus were intact. The lesion had to a slight extent invaded the posterior arm of the capsule.

DR. WHARTON SINKLER, of Philadelphia, read a paper entitled "Tumor of the Optic Thalamus," and presented a specimen. He reported the case of an unmarried woman, forty-six years old, who, previously in excellent health, first noticed somnolence and loss of mental vigor. Her manner became indifferent and listless. A little later there was some aphasia, and later still paresis of the right side of the face, unsteadiness of gait, and awkwardness in the use of the right hand. When first seen there was marked paralysis and partial anesthesia of the right side of the face, but no impairment of sensation of the arm or leg. There was decided mental hebetude, but no loss of memory. The woman could not walk on account of unsteadiness. The knee-jerks were exaggerated. The temperature was subnormal and the pulse varied from 48 to 60. The pupils reacted to light and in accommodation. There was no nystagmus or hemianopsia, and no change in the fundus oculi.

The symptoms increased in severity, the temperature rose rapidly, and the patient died. There had been no convulsions.

The post-mortem showed the left optic thalamus to be the seat of a growth as large as a hen's egg, which encroached upon the corpus striatum and posterior part of the internal capsule. The tumor has not been examined microscopically, but is probably a fibroma.

The points of interest are the hysterical symptoms that were present at the onset; the fact that the anesthesia was confined to the face; and the question that arose as to the possibility of operation.

DR. DANA referred to two cases, one with tumor and another with softening in the thalamic region, in both of which somnolence was a prominent symptom. This phenomenon is characteristic when the posterior portion of the optic thalamus and the neighborhood of the corpora quadrigemina are involved.

DR. SEGUIN reported a case with a probable tumor in the thalamic region, with somnolence, which was increased by the use of potassium iodid.

DR. DANA said that he is familiar with a case in which the iodid acted as a hypnotic.

DR. GRAY said that he has noticed the iodid to produce somnolence in a case of cerebro-spinal meningitis.

DR. SINKLER added that in his case the somnolence diminished after the administration of the iodid.

DR. GEORGE J. PRESTON, of Baltimore, read a paper entitled "The Localizing Value of Aphasia." He related two cases of hemianopsia, one with autopsy, in which there was no word-blindness, as might have been expected. A case of mixed aphasia was related and the brain exhibited. The case showed absolute motor aphasia, together with word-blindness, and yet the lesion was confined to the third frontal convolution, the occipital cortex showing no disease. A case was reported in which there was a general disturbance of speech, with distinct mental symptoms; the patient at times being maniacal. Upon the strength of the general disturbance of the speech-processes the skull was trephined over Broca's region, and the under surface of the dura found covered with blood.

DR. LEONARD WEBER, of New York, presented a paper entitled "Spinal Neurasthenia." He objected to any single plan of treatment as too much routine, and not likely to be of permanent service to the patient, while a proper combination of well-known methods based upon careful individualization is likely to be of greater benefit.

In the grave forms of neurasthenia caused by mental and physical overwork, the prognosis thus far has not been good, even as to relative recovery. If the reports can be trusted, it would seem that hypnotic suggestion constitutes a remedy of extraordinary power in some of these cases.

The history was related of some cases of severe neurasthenia brought about by protracted mercurial inunction, and another caused by prolonged daily use of small doses of Carlsbad salts. Both recovered at the end of about a year.

THIRD DAY—JULY 27TH.

DR. WM. C. KRAUSE, of Buffalo, read a paper entitled "Observations in a Case of Myxedema." He reported a case of myxedema in a woman, fifty-three years

old, whose mother was afflicted with symptoms similar to the patient's. The patient had always been in good health up to her forty-sixth year, although she had never perspired, and the secretions, as the saliva, nasal mucus, and the milk, were always scanty. Following upon an accident, her face, body, and extremities became swollen, her hair suddenly disappeared from all parts of the body, and she suffered with severe pains, especially through the temples, and a tired feeling incapacitating her for all kinds of manual labor. She further complained of a feeling of coldness, even in midsummer. Her hands were dry, harsh, and scaly, her face waxy, and her eyes puffy and swollen. Her temperature ranged from 95.4° F. to 97.4° F. Her pulse, soft, regular, and uniform, varied from 81 to 88 per minute. The edema-like swelling did not pit on pressure. The urine was normal and did not contain albumin at any time. The only drug that acted beneficially was ferric chlorid.

Thyroid glands of sheep were given for six weeks, but no improvement whatever appeared to follow. Another case, seen in consultation, treated with desiccated thyroids, also manifested no improvement.

DR. PHILLIP COOMBS KNAPP, of Boston, read a paper entitled "Simulation in Traumatic Nervous Diseases." He said that although many persons will simulate disease if it be to their advantage, successful simulation of the various traumatic nervous affections is rare.

Non-traumatic hysteria and neurasthenia present many symptoms that appear counterfeit, the victims of these diseases often being accused of pretending to be ill, when really the malady is a serious one.

Contraction of the visual field, anesthesia, tremor, disturbances of the reflexes, circulatory disturbances, and Mannkopf's symptoms are to be regarded as important objective signs. Few simulators have intelligence enough to withstand a searching examination by a skilled neurologist.

Furthermore, a person can keep his attention fixed on any subject only for a very brief time, and if he must be prepared to defend his simulation of half a dozen different symptoms he will inevitably be tripped up by unexpected tests applied when his attention is diverted.

Three cases were cited in which the defence claimed that there was simulation, but in every case objective evidence proved the reality of the disease.

Of fifty cases in which claims for damages had been made, only two could be regarded as simulating, and few as exaggerating, and in most of these there was little reason to suspect any deliberate attempt at fraud.

DR. MILLS maintained that absolute simulation is very infrequent. The cumulative exaggeration of symptoms, however, is comparatively frequent. A few persons can simulate a type of insanity or a traumatic neurosis, but cannot easily simulate all of the symptoms and signs.

DR. GRAY said that many cases supposed to be simulating are simply offering to the trained eye symptoms indicative of possible simulation. He related a case of traumatic neurasthenia cured by $\frac{1}{125}$ grain of atropine taken for two days.

DR. LLOYD held that the symptoms of traumatic neurasthenia are nothing but the inter-paroxysmal symptoms of hysteria. Because a person develops hysteria after an accident there is no reason to believe that he must be a simulator.

DR. SEGUIN exhibited a specimen stained with a 1 to 2000 solution of nigrosin, a method that he used many years ago, but neglected to publish. One of the advantages is that specimens may be safely left in the solution for twenty-four hours.

DR. C. L. DANA, of New York, read a paper entitled "The Microbic Origin of Chorea, with a Case." He reported the case of a man, twenty-six years old, who had had chorea from the age of fifteen, the attacks appearing exactly like those of ordinary chorea. At first there were intermissions, but the disease finally became chronic. The spasmodic movements were general and violent. There was no heart-disease or rheumatism.

The patient died from exhaustion. The post-mortem examination showed microscopically a conspicuous chronic lepto-meningitis involving the vertex of the brain. Microscopically this was found to be mainly a proliferation-process, without exudation or much cell-infiltration. In the superficial layer of the cortex there were cellular infiltration and degenerative changes. At this point diplococci were found. The microörganisms were found only in the deep layer of the pia and the superficial part of the cortex.

In addition, there were found peculiar hyaline bodies in the three outer layers of the cortex and less numerously in the basal ganglia. There were evidences of meningeal irritation, vascular disease (arteritis), and nerve-root irritation in the medulla and upper part of the cord. The lower part of the cord was not examined.

The following named gentlemen were elected to active membership: Dr. Brower, of Chicago; Dr. Burr, of Philadelphia; and Dr. Diller, of Pittsburg. Dr. Arnold Pick, of Prague was, elected an associate member.

The following papers were read by title: "The Genesis of Hallucination, Illusion, and Delusion," by Dr. H. A. Tomlinson, of St. Peter, Minn. "The Diagnosis of General Paresis," by Dr. L. C. Gray, of New York. "A Report of Two Cases of Friedreich's Disease," by Dr. Frank R. Fry, of St. Louis. "The Metapore or Foramen of Magendie in Man and in the Orang," by Dr. Burt G. Wilder, of Ithaca. "Observations on the Relation of Chorea to Rheumatism," by Dr. Eugene Riggs, of St. Paul. "Experiences in the Use of Testiculin and Cerebrin," by Dr. J. J. Putnam, of Boston. "Peripheral Paralysis after Surgical Operations," by Dr. V. P. Gibney, of New York. "Traumatic Brachial Plexus Paralysis in Infants," by Dr. Wm. M. Leszynsky, of New York.

The officers elected for the ensuing year were: President, Dr. B. Sachs, of New York; Vice-Presidents, Dr. F. X. Dercum, of Philadelphia, and Dr. P. C. Knapp, of Boston; Secretary and Treasurer, Dr. G. M. Hammond, of New York; Councillors, Dr. E. C. Seguin, of New York, and Dr. J. H. Lloyd, of Philadelphia.

BRITISH MEDICAL ASSOCIATION.[1]

Sixty-first Annual Meeting, held at Newcastle-upon-Tyne, August 1, 2, 3, and 4, 1893.

FIRST DAY—AUGUST 1ST.

DR. GEORGE HARE PHILIPSON delivered the President's Address. He expressed his appreciation of the

[1] From advance proof-sheets kindly furnished by *The British Medical Journal.*

distinction conferred in being made President of the Association, and offered a hearty and cordial welcome.

The Association had previously met in Newcastle in the year 1870. In the interval of time it has greatly increased in numbers, power, and influence. At the annual meeting in 1870, 320 members attended, and the Association numbered 4258. Now it has on its roll 14,700 members. The proportion of British members of the profession who are not yet members of the Association is a steadily decreasing minority. The Association may fairly claim to have brought about for the profession throughout the British Empire the federation which still remains the dream of the politician. Medicine, happily, knows no frontiers, except such as are erected by diversity of language. Members of the Association are to be found in every quarter of the globe, and there are now but few British dominions, colonies, or dependencies in which a branch of the Association does not exist.

At the Newcastle meeting in 1870, Mr. Ernest Hart was reappointed the editor of the *British Medical Journal*. The power and ability, high professional tone, and ministerial direction which he has displayed in its conduction must be apparent to every member of the Association. The weekly issue, in the interval of nearly a quarter of a century, has been increased from 2000 to 17,500. On such a satisfactory result Mr. Hart is to be heartily congratulated. By his editorial work he has largely contributed to advance the well-being of the nation, to promote the best interests of the medical profession, and to increase the good feeling of its members.

Consideration was given to matters connected with Newcastle, historic and otherwise. The city has two institutions of a collegiate nature—the College of Medicine and the College of Science, both being colleges of the University of Durham. As early as 1834 classes were established in Newcastle for the study of medicine. In 1852 the School of Medicine was received into connection with the University of Durham, and in 1870 the affiliation was rendered more complete by the school becoming a college of the University. The lecturers of the College are officers of the University in the Faculty of Medicine, and the students are undergraduates of the same faculty. In the present College, which was opened in 1889, every modern improvement has been adopted, whereby the medical education and the well-being of the students can be furthered. In the College Calendar for 1893 the list of students is 262.

In the University of Durham, in the academic year of 1892–93, 145 degrees in medicine, surgery, and hygiene were conferred. The University was the first of the examining bodies of the United Kingdom to institute a practical examination in anatomy and chemistry, and a clinical examination in medicine and surgery for degrees in medicine and surgery. It was also the first University in England to grant degrees in hygiene. A professorship of comparative pathology has been recently founded by the University in the College of Medicine, the endowment for which was generously bequeathed by the late Dr. George Yeoman Heath, Professor of Surgery and President of the College of Medicine. Thus, through the foresight and munificence of one of its most illustrious professors, the University has become the pioneer of a new branch of medical education.

The medical institutions in Newcastle are numerous and well supported. The Royal Infirmary, established in the year 1751 for the counties of Newcastle-upon-Tyne, Northumberland, and Durham, from time to time has undergone additions, and at the present time has accommodation for 280 in-patients. The particular interest of this institution is that it exhibits the changes that have taken place in hospital-construction and arrangement during the past 150 years. Efforts are being made to obtain a new infirmary. The Newcastle Dispensary, founded in the year 1777, was the second of the kind in the provinces. The first systematic returns of the sickness of the borough appeared in its annual reports. The City Hospital for Infectious Diseases, situated at Walker, built on the single-story-pavilion system, with a disunited administrative block, is available for 100 patients. The Prudhoe Memorial Convalescent Home, at Whitby-by-the-Sea, arranged on the pavilion plan for 160 patients, was erected by public subscription in memory of Duke Algernon of Northumberland. There are also the following special hospitals: The Fleming Memorial for Sick Children, the Eye Infirmary, the Hospital for Diseases of the Chest, the Hospital for Diseases of the Throat and Ear, the Hospital for Diseases of the Skin, and the Hospital for Incurables.

The diseases that may be considered to be associated with the occupations peculiar to the locality demand a short notice. In the three northern counties of Northumberland, Durham, and Cumberland, it is estimated that about 120,000 people are employed about coal-mines. To the heated atmosphere of the coal-mine, an atmosphere often laden with dust, and to the strain thrown upon the internal organs caused by the cramped position in which miners are obliged to work, the mucous catarrhs of the respiratory and gastro-intestinal tracts, from which miners suffer, may be attributed. But there are few diseases peculiar to miners.

Anthracosis is very rare. Emphysema of the lungs does occasionally occur. The pitman's asthma is well known, but it is a much less frequent disorder now than formerly. Miners are also very exempt from nephritis, which may be attributed to the profuse perspiration which they experience while at work and to the daily ablution which they practise on their return home. Contrary to what might be expected from the violent muscular exertions necessary to hewing, and from working frequently in wet and damp places, and always more or less in currents of air, rheumatism and rheumatic fever rarely affect the coal-miner. The explanation of the exemption is the same as that given respecting nephritis. The miners of the North of England have an average of three years longer life than the aggregate of Englishmen, eight years longer than the Cornish miner, nine years longer than the South Wales miner, and only one year less than that of the men of the healthiest districts of the kingdom.

The frequent occurrence of diseases of the cardio-vascular and nervous systems is to be noted. The workers in iron, particularly the puddlers and strikers, are prone to suffer from diseases of the heart and aorta, owing to the strain thrown upon the bloodvessels. From the records of the Newcastle-upon-Tyne Royal Infirmary for the past five years of all the medical cases, 15 per cent. were of diseases of the circulatory system, and

of this number 15.6 per cent. were cases of disease of the large vessels; the pathologic changes observed were dilatation and hypertrophy of the ventricles, with incompetence of the aortic valves; and 17 per cent. were of diseases of the nervous system.

There are large lead-works on the Tyne, both of white and red lead, and the Royal Infirmary is rarely without several cases of lead-poisoning. It is observed that the women suffer much more than the men; the records of the Royal Infirmary show twice the number of women to men, as it is the former who are employed in handling and stacking the carbonate of lead. The carbonate of lead when introduced into the system by inhalation or otherwise mixes freely with the fluids, and causes a toxemia followed by convulsions, and a fatal coma termed "lead-encephalopathy." As death under these circumstances has been rapidly induced, no marked structural change is detected in the internal organs. In the more chronic cases the effects of lead-poisoning are found in structural alteration of the heart and kidneys, and central and peripheral changes in the nervous system; and lead has been found in the internal organs upon necropsy. As to the remedy for this state of things, the subject requires the most careful investigation in the interests alike of the employer and the employed.

Asiatic cholera, described as such, has been epidemic in Newcastle upon three occasions. The first visitation occurred in 1831–32, causing 322 deaths; the second in 1848–49, with 412 deaths; and the third in 1853, with 1533 deaths. The water supplied to Newcastle in 1832 and in 1853 was polluted, and in 1849 was uncontaminated. In 1849 the mortality in proportion to the population was seven times less than in 1832 and 1853.

Respecting the threatening of cholera in England in the autumn of 1892, in September, one sailor from Hamburg arrived in the Tyne suffering from the disease. He was removed to the floating hospital at Jarrow-on-Tyne, and died. There was no spread of the infection. This may be fairly attributed to the strenuous action of the Tyne Port Sanitary Authority, guided by its medical officer.

The present water of the Newcastle and Gateshead Water Company is good in quality, and is filtered before being delivered. The reservoirs of the company are capable of holding 1,827,000,000 gallons.

Few towns in the kingdom have increased in their population with the present generation as Newcastle has done. In the year 1871 the population was over 128,000, being an increase in ten years of 15 per cent.; in the year 1881 over 145,000, an increase of 11.6 per cent.; and in 1891 over 186,000, an increase of 28.2 per cent. In the census of 1891, Newcastle is exceeded in its increase only by Cardiff, which is 55.7 per cent.

Of the deaths registered in Newcastle from all causes in the ten years 1871–80, the average rate of mortality was 25.8, and in the ten years 1881–90, 23.6, a diminution of 2.2, and during the same decades, of the seven chief zymotic diseases, there was a diminution of 1.6.

Questions relating to State medicine were also taken up, especial consideration being given to the subjects of the notification of diseases, the pollution of rivers, lunacy legislation, and other matters of public health. A plea was made for a Minister of Public Health.

SECOND DAY—AUGUST 2D.

DR. DAVID DRUMMOND delivered the Address in Medicine. His subject was entitled "Causal Relations in Disease." He entered upon a consideration of some prominent morbid relations and the deductions therefrom.

To the question why etiology and treatment have lagged far behind diagnosis in the scientific race, notwithstanding the substantial impetus given by the labors of explorers in the microcosm of disease, it may be answered that it is perhaps from an insufficient consideration of the possible end to which this great principle of causation may lead, and also from a too great proneness to multiply causes unnecessarily, and at times flippantly against the protests of science and philosophy. A hint might with advantage be taken from the chapter of modern experimental pathologists, and the demonstration aimed at, that a disease can be referred with more justice to one definite cause than to several, each credited with its *pro rata* share of statistical responsibility. It will no doubt be objected that no matter how desirable such a demonstration may be, our present knowledge does not admit of it. But even if this be so, an attempt at least should be made to differentiate morbid conditions that may, by their close symptomatic resemblance to each other, be confounded, and to refer each to its proper cause.

The divergence of opinion that exists in reference to the true causal factor of some diseases may, in a measure, be due to the employment of terms that do not convey precisely the same meaning to all who use or read them. Hence, naturally, ensues a confusion that will gradually disappear as the reference or reduction of morbid conditions to their true and definite cause or origin comes to be prescribed as an ideal to be realized more and more fully with the progress of knowledge. The employment of this method will eventually lead up to the formation of a nomenclature which, in addition to being strictly accurate, may prove of immense therapeutic and diagnostic value, and guard against the mistakes incident to the habit of giving to a group of symptoms or a pathologic condition a name that may indicate a discoverer, but does not indicate the nature or origin of the disease.

An apt illustration is furnished by those numerous and seemingly distinct lesions of skin, eyes, brain, joints, lungs, etc., which aforetime were regarded as separate entities, but which are now known to have one causal factor in common, the bacillus of tubercle, linking all together. Thus the study of tubercle grows in importance as its circle of causal relations widens, and each new fact in its life-history or its manner of decay throws more light upon this great clinical family.

The persistent attempt to reduce morbid conditions to a single cause will have a material and beneficial bearing upon the method of treatment. It is agreed that a cure to be effectual must reach the root of the disease. Once let assurance be given that the true origin has been discovered, and the proper treatment, if adopted early in a remediable case, may reasonably be expected to be successful.

Another advantage to be reaped from the recognition of unal causation in morbid relations is its diagnostic

help, for if the patient's symptoms point in the direction of a possible disease which, in the experience of the practitioner, is commonly preceded by a definite causal factor, and he can assure himself of the presence of this factor, then the evidence is strengthened and the diagnosis materially confirmed. To the objection that the number of cases of striking morbid affinities are too few to be of any practical value in this direction, it may be replied that the bond of union between certain associated lesions is being daily more recognized, and that the circle of causal relations is ever widening so as to include an increasing number of diseases.

Dr. Drummond then proceeded to examine a few of the more prominent morbid conditions whose claim to belong to the category of diseases having a constant cause is pressing. In this class he included the relation between syphilis and locomotor ataxy, which from his experience he believes to be constant. He regards, and has long taught accordingly, locomotor ataxy as invariably the result of antecedent syphilis, and that (some statistics notwithstanding) where the former is found it may be declared with a feeling of absolute certainty that there has been at a previous date the latter, to which this locomotor ataxy is in some manner due.

Another disease that is to be ascribed to the same specific factor is general paralysis of the insane. Here the burden of proof is attended with still greater difficulties to the statistician, who has in many instances to deal with patients whom Nature, in robbing of past memories, has deprived of the ability, if they possessed the will, to furnish a true record. And, further, there is a larger proportion of women amongst general paralytics than amongst tabetic cases—a fact that lends an additional complication to the case. Notwithstanding these obstacles Jacobson has recently declared that at least 65 per cent. of the cases are specific, and years ago Steenberg and others contended for the unal theory, namely, that there was "no general paralysis without syphilis."

The importance of adopting this view, if it be correct, can scarcely be overestimated, for it will surely clear the way for a reliable diagnosis if it can with confidence be said that, in eliminating syphilis in a mental case one is practically excluding general paralysis—a factor that may turn the balance when, as often happens, one is compelled to catch at diagnostic straws. If further evidence were required in support of the theory of the constant connection between syphilis and general paralysis of the insane, over and above that furnished by statistics and interpreted in the light of the inductive method of reasoning, it is to be found in the fact that this disease is virtually the only progressive mental disease known to be associated with a definite and recognizable anatomic lesion. This fact alone justifies an opinion in favor of a special causation, for it singles out the disease, and seems to warrant the conclusion that, as a definite pathologic process has been at work, so has there also been a special etiologic factor.

It may be rash in the light of past failures to predict much therapeutic benefit from the recognition of the cause in the instances cited, but may it not be fairly asked: Might not the results have been different had the remedies been applied earlier? For it will not be straining to an unreasonable extent our knowledge of "specific" lesions to suggest that preceding and underlying the morbid changes of the nature of sclerotic degeneration with which all pathologists are familiar, and which, as is known, have defied our remedies, there is a stage of specific myelitis and neuritis that tends to run an extremely chronic and insidious course, and may be most difficult to recognize clinically, unless perchance a timely warning be given by a ptosis or a diplopia, etc., when the administration of suitable remedies might be expected to yield a good result. How many cases of locomotor ataxy and general paralysis have been prevented by the timely use of anti-syphilitic remedies, when at the outset a clue is forthcoming, it is impossible to say.

Dr. Drummond laid yet another sweeping accusation to the charge of this many-headed hydra, the extent of whose subtle and baneful influence seems scarcely yet realized. For many years he has been deeply interested in the study of the connection between syphilis and aneurism, and in common with others has been struck with the frequency with which the former occupied a prominent place in the history of a sacculated aneurism. The inquiry has been pursued with special care, with the result that since the commencement of the investigation no indisputable case has come under notice in which specific disease was wanting, excepting two or three examples of that interesting condition, acute softening of the arterial wall, with aneurismal bulging, in malignant endocarditis. In order to emphasize this statement it was pointed out that the observations applied to a part of the country in which aneurism is an exceedingly common disease; during the past ten years 145 cases of aneurism of the thoracic aorta have been treated in the wards of the Royal Infirmary.

No attempt was made to establish the specific character of the aneurismal process, and it was not denied that sacculated arterial bulging to the extent worthy of the name of aneurism may occur in conditions other than those due to syphilis of the arterial coats; but it was suggested that there is something special in this form of arteritis that renders the affected part of the vessel peculiarly liable to yield to pressure. It may be that the involvement of the middle and outer coats, and their transformation into fibrous tissue, so common in syphilis, will account for this liability; and it has been found a good practical rule not to diagnosticate aneurism in a doubtful case in the absence of syphilis—a rule that must be more or less limited in its application, as it necessarily presupposes an accurate history. Arterial strain through hard work, is of course, a factor in the production of aneurism, but it is one that in the vast majority of instances requires to be multiplied by specific arteritis in order that the product be aneurism, and then it is the lesser quantity of the two.

The causal relation of pneumonia to empyema, one of the closest if not the most constant, the latest textbooks notwithstanding, is another exemplification of the subject. True there are cases of pus in the pleural cavity that have not arisen out of an attack of pleuro-pneumonia, due possibly to an acute septic pleurisy, or to tuberculous pneumothorax, or as the result of a simple effusion becoming contaminated by septic matter, say by means of a trocar, but these are exceptions. Exclude them, and it may fairly be concluded that empyema, the common disease with which practitioners

are so familiar, may be ascribed to an antecedent pneumonia. It is of the greatest moment to recognize an empyema as early as possible, for the sooner the pus is evacuated the shorter will be the surgical treatment of the case, and the better the prospect of permanent recovery; and, further, if taken very early, a single tapping without incision and drainage may effect a cure. Now the diagnosis of these cases turns largely upon the discovery of the pneumonic factor; in other words, familiarity with the fact that effusion following pneumonia is very likely to be purulent furnishes a clue to diagnosis.

Few subjects have excited more interest than the relation between rheumatism and chorea, and none has occasioned greater divergence of opinion. The discrepancy relates chiefly to the question of degree, for nearly all allow a certain affinity between the two diseases. If it be admitted that a certain proportion of cases of chorea are associated with rheumatism, the inquiry naturally divides itself into two parts, the nature and extent of the relationship. Clinical observation indicates that in a certain proportion of cases, at least, chorea is simply one manifestation of the disturbance by the rheumatic poison of the function of somewhat unstable and growing cortical cells; and if this conception be tenable in a few instances, may it not be extended so as to include the whole of the familiar group of typical choreic cases so common among the children of nervous and rheumatic families, and prone to yield to large doses of arsenic? The study of cardiac lesions throws into relief the importance of tracing diseases to their true causes. They are all referable to primary conditions—rheumatism, gout, specific fevers, tuberculosis, sepsis, alcoholic excess, syphilis, etc.—which are singularly fruitful in morbid products. These conditions constitute a formidable list, to which additions are constantly being made, and each is responsible for heart-affections having more or less characteristic clinical and pathologic features. The immense importance of investigating cardiac diseases upon the basis of their antecedent and underlying morbid states cannot be overestimated, for the treatment and prognosis depend largely upon the particular agent at work. The same remark holds good in the case of lesions of other organs, a fact that in many instances has been fully recognized; but, its application in heart-disease is perhaps more than ordinarily conspicuous. It has been the habit of the schools to attach too much value to the diagnosis of the particular valve-lesion, and too little to its cause. Thus, for example, we content ourselves with the shallow and often unimportant observation that this or that case is one of mitral regurgitation or double aortic disease, a diagnostic shibboleth that any novice may apply; forgetful that what is of paramount importance is not only the primary reason for the existence of the lesion, but also the cause upon which the symptoms belonging to any subsequent attack of cardiac failure may depend. Thus the inquiry would necessarily embrace the questions, in the case of toxemic lesions—gouty, rheumatic, alcoholic, etc.: Is the poison still circulating? and what is the prospect of its return? Difficult and at present more or less problematic are these questions, but to them we must direct our attention before we can hope to prognosticate and treat heart-disease successfully.

An attack of rheumatism may damage a valve and leave behind a permanent legacy, but how innocuous that structural change may be, so far as the health of the patient is concerned, so long as his real enemy—rheumatic poison—remains absent, is well known to all practitioners. For there can be no doubt that the injured endocardium is very likely to suffer further damage under the influence of fresh rheumatic attacks, however slight. It is these intercurrent rheumatic accessions, often subtle and unattended by any outward manifestation beyond fever, that are fraught with so much risk. So, also, is the case of gouty mischief, but here the causal factor is more constant and insidious in its operations, and its ravages are too often deeply rooted before they are recognized, a fact that should lead to greater diligence in unearthing a latency so dangerous.

In syphilis we have a much more common cause of heart-disease than the text-books admit, and surely a morbid agent that might be met and treated if recognized at the outset; but how seldom has the attempt been made, though specific arterio-sclerosis is an obvious pathologic entity.

The varieties of alcoholic heart-disease are now receiving attention, and, with increasing clinical and pathologic information, it is to be hoped that fewer mistakes in prognosis will be made; for often the alcoholic heart fails suddenly, giving rise to an unexpected catastrophe, despite the most favorable prognosis, because the mischief, being rather of the myocardium than of the valves, has remained undetected.

Careful attention to these etiologic circumstances will often enable us to help the poor cardiac backslider in a more substantial way than if we simply consider his defective machinery and treat his more pressing wants, regarding the intercurrent attacks as natural and unavoidable incidents in the course of the disorder. It has at times been possible to demonstrate in the post-mortem room that the valve-lesion from which the patient had suffered was due to a chronic tuberculosis of the pericardium resulting in general adhesions, and that the valves supposed to be diseased were in themselves healthy, though the orifices were dilated and the myocardium degenerated. Obviously the treatment and prognosis of such a case must differ from the treatment and prognosis of cardiac failure from pericardial adhesions, or of a heart damaged in early life by scarlatinal valvulitis and broken down by excessive work, or of a rheumatic case marked by returning and often protracted pyrexial attacks, or of an insufficiency directly due to alcohol.

A substantial reduction in the number of chronic heart-cases, as the result of the recognition of the fact that many are due to curable and preventable causes, which an early and successful treatment might reasonably be expected to subdue, would not be a dream too visionary for us to indulge in; but assuredly until the causes are fully appreciated, a dream it will remain.

It would be difficult to select a better illustration of the benefits that have arisen from the influence exercised by the view that the true or ultimate causes underlying diseased states are, in the botanic sense, solitary, and that the paths along which they travel are comparatively few and well-beaten, than the knowledge that guides advanced surgeons in their dealing with suppurative peritonitis—the knowledge, namely, that these cases always result from infection of the peritoneum with pus-

microbes. Pathologists have helped their surgical friends to give a practical turn to this fact by recognizing that the infective microbes gain an entrance either by perforation of a viscus—ulcerated appendix, bowel, or stomach—or the rupture of a puerperal abscess, a generalization that serves a useful turn in practice, though scientifically speaking it may not be quite accurate.

An extension of this line of thought cannot fail to bring conviction that the nosologic tables hardly contain the name of a systemic disease that is not simply the reflection of some primary morbid state with which we are more or less familiar. Many of these, it is true, are known only as subtle influences, but they are becoming rapidly less shadowy, and before long it is to be hoped that the bright light begotten of the fierce competition and zealous spirit of work so characteristic of the present day will reveal their true nature. At present, like light itself, they are not understood, and are scarcely discernible, until by falling upon some organ with whose form and functions we are familiar, they are reflected to the eye of our understanding.

Consideration was given to some possibilities in the modifying or controlling influence exercised by one disease upon another.

The proposition was made that familiar clinical pictures of disease of an organ are often the product of the symptoms peculiar to it, and of others which are the expression of impaired function of another organ. In other words, the full symptom-complex of disease of one organ may be largely contributed to by disease of another, whether produced by the same or some other cause. For instance, a patient addicted to alcoholic excess for a considerable number of years is known to be suffering from a group of dyspeptic symptoms, ascribed by the patient, friends, and doctor to this cause, but without a suspicion of gross organic mischief underlying them. This state of health interfered but slightly with the discharge of public and private duties, and indeed, beyond loss of flesh and some discomfort, there was a complete absence of signs of disease. An attack of pneumonia, which tried his powers of endurance considerably and was followed by a slow convalescence, completely altered the character of the case. Within a fortnight or three weeks of the incidence of the pulmonary disorder the abdomen swelled and its superficial veins enlarged, the lips became red and the tongue glazed and red, the face pinched and the urine scanty and full of urates, the motions black, and in every way a most suggestive picture of cirrhosis of the liver was presented, a transformation that astonished the doctor and friends, and was not at first sight easily explained. The only reasonable assumption to account for the apparently rapid delevopment of cirrhosis of the liver was that the disease had existed for a considerable period in a latent form, and that the obstructed portal circulation was compensated for by the usual auxiliary relief, which served to reduce congestion, and thus keep in check the tendency to ascites, etc., until the attack of pneumonia, by producing cardiac insufficiency, upset the balance, and led to the appearance of the typical signs hitherto absent. Though the pathologic changes characteristic of cirrhosis were present, the clinical aspect of the case was incomplete until a new and necessary factor, which had nothing to do with the original disorder, revealed the true nature of the illness. It seems a just inference that the cardiac affection made an important, if not essential, contribution to the completion of the symptoms picture. There is reason to think that in cirrhosis of the liver generally the occurrence of the abdominal dropsy largely depends upon the supervention of heart weakness. It is not unusual for the dropsy of chronic nephritis to be determined by heart-weakness.

It is not enough to say that clinical pictures may be the joint products of symptomatic morbid relations, for they are often presented under the modifying influence of a tendency or bias, lent by a former or a concurrent disease; that is to say, it is quite common to meet with pronounced modifications in the clinical pictures of disease which can only be accounted for on the principle that one disease has a determining influence upon the aspect of another. Thus, a young man, aged twenty-two, suffered in the autumn of 1891 from an attack of alcoholic paralysis which revealed itself in the usual form of weakness in the legs, flapping of the feet in walking, with, eventually, ankle-drop and paralysis, and paresis of the extensors of the fingers, along with which were severe myalgic pains. He recovered satisfactorily, and at the end of four months he was able to walk, and a little later to ride his bicycle. In May of the following year he had an attack of diphtheria, and in a few weeks, while strictly temperate, he developed, without any defect of sight or impairment of swallowing, numbness and weakness of the legs and hands, and indeed a very similar condition to that which had existed previously, except that the pains were absent. In this case the diphtheric palsy was exhibited in a somewhat unusual form, in consequence of a predisposition to a special paralytic distribution lent by an attack of alcoholic neuritis. Cases of diphtheric paralysis are met with in which the lower extremities bear the brunt of the poison, but it is exceptional to meet with so pronounced a paraplegia in the entire absence of the usual signs, such as failure of accommodation, dysphagia, etc.

In another instance a man in the prime of life, who was much addicted to alcohol, came under observation for complete double wrist-drop, presenting every feature of a plumbic case. His history revealed the fact that twelve years previously he had suffered from lead-palsy, with blue line, the result of drinking contaminated water, and as he was recovering he acquired intemperate habits, and developed into a chronic toper. The consequence was that the paralysis of the extensors became more pronounced, and remained permanent. There was absolutely no paralysis of the lower extremities, and the knee-jerk was normal.

The modifying influence of one lesion upon another may be, as it is well known, decidedly beneficial. Thus, sarcoma and lupus may yield to the poison of erysipelas; of which fact, it is reasonable to suppose, more will be made in the immediate future.

The controlling effect of disease on disease is also to be seen in the fact that it is quite rare for pulmonary tuberculosis to spring up in the course of a cardiac affection. Again, it is not unusual when lardaceous disease develops in consequence of chronic pulmonary tuberculosis, to observe a distinct tendency on the part of the tubercle to be arrested in its growth. Further, in

this connection the rareness is striking with which a pneumonia complicated with jaundice proves fatal.

THIRD DAY—AUGUST 3D.

DR. G. H. HUME delivered the Address in Surgery, taking as his subject "The Evolution of Surgical Principles."

The mode of growth of scientific principles can find no better illustration than in our modern doctrines of surgical repair. The beginnings of these doctrines may be traced far back in the history of surgery. Hunter's statement that "primary healing takes place without inflammation" contains the germ of what we believe and act upon now. It did not, of course, go far enough. It defined the relationship between what was then, as it is now, ideal healing and inflammation, in the sense that no relationship can or does exist between them at all. There is, however, no such definite expression to be found in Hunter's writings with regard to the modes of secondary healing. Hunter believed, as did most of his successors down to the last few years, that a certain degree of inflammation was necessary for these delayed forms of healing. Indeed, from Hunter's time there was a falling away from the faith, and the most philosophic surgical opinion, as represented by Travers, held that a "subdued state of inflammation favors healing," and that to "supersede it would effectually retard or preclude" the process of repair.

Down to a recent period the ideas of healing and the ideas of inflammation seemed in the very nature of things to be inseparably interwoven. It turns out that they were only needlessly entangled, and ideas which in the time of their confusion belonged mainly to the region of theory have since proved to be matters of the most eminent practical importance. The process of disentangling began in and proceeded with the elucidation of the true nature of inflammation and its consequent suppuration. There was a time when the four classical symptoms of pain, heat, redness, and swelling, summed up nearly all that was known of the process of inflammation. Then followed the anatomic era, the time most fruitful of bewilderment to the student, in which, thanks to rapid improvement in the methods of microscopic investigation, attention was concentrated upon the blood-stasis, the changes in the tissues and in the vessel-walls, and on the out-wandering of the colorless corpuscles. An intermediate stage followed this in which, clinically and experimentally, the suppurative processes were recognized to be infective in nature. This culminated in the present period in which the whole process is demonstrated to be due to the agency of microörganisms. One point, however, remains to be cleared up. Is the febrile access which follows an aseptic operation, sometimes sharp in degree though short in duration, to be looked on as the result of inflammation? There is no ground for supposing it to be an infective process, the same in kind and differing only in degree from that which always tends to suppuration. If different in nature it should also be distinguished in name, and there is much to justify the proposal to restrict the word inflammation to those changes that result from the action of septic organisms, while the other and simpler process under some such title as traumatic reaction demands further examination for the clearing up of its intimate character. Such a defined use of the term would end the confusion which has hitherto attended the conception of inflammation as a disease, and would rest on the sure ground of etiology the idea to which the word corresponds.

Naturally with the true knowledge of inflammation and suppuration have come clearer and more accurate views with regard to the process of repair. Not alone in primary adhesion but in all forms of healing it is seen that inflammation is never a help, and can only be a hindrance, and that if it occurs repair must take place in spite of it, or be delayed until it has passed away. The surgeon's part, therefore, is not to treat but to prevent inflammation and suppuration, and the practical side of the scientific evolution that has taken place is the antiseptic system.

It has sometimes been made a reproach against the system of wound-treatment by the introduction of which Lister created an epoch in surgery that its methods and details have undergone constant change. But through all the alterations of detail that the desire for greater simplicity or increased security has prompted, there has been no deviation of principle. The dependence of suppuration and septic diseases upon organisms, and the prevention of these diseases by destroying or getting rid of the cause, constitute the principle on which the treatment rests, and it is one that admits of some latitude in its application. The aim can be achieved in two ways. Either reliance is placed mainly on the germicidal powers of chemical agents, or the surgeon prefers to trust rather to the removal of the minute organisms along with the soil in which they flourish. The two roads to the same end are known under the names antiseptic and aseptic; and, fortunately, both can be travelled on at the same time. It has been thoroughly learned that cleanliness takes no second place, but it is the highest virtue in surgery. Therefore no pains are spared to remove every particle of dirt from the area and all the accessories of an operation; and in addition the further security is obtained which the use of some germ-destroying agent can give.

The main changes in the technique of the antiseptic treatment have owed their origin to changing views as to the sources whence danger of infection might be expected to arise. Under the guidance of his earlier experiments, and in accord with the work of Pasteur and the investigations of Tyndall on the floating matter of the air, Lister devised his measures for the avoidance of atmospheric contamination; hence at first wounds were sealed, and later the spray was employed. Gradually the belief strengthened that the air as a source of danger might practically be neglected, and the spray was given up, with a sigh of relief. It had come to be admitted that the surgeon's hands and the skin of the patient, besides the instruments and sponges which had always been cared for, were most often at fault; and as a result even the most orthodox believers in the potency of carbolic acid or corrosive sublimate became scrupulous cleansers.

The antiseptic system admits of latitude in its application; it is open to everyone to elaborate his own technique. The worst surgery, indeed, is the stereotyped surgery; the best is that which, working faithfully from sound principles as a science, encourages as an art fertility and variety in their application. But with whatever variety of method, there ought to be now no grades in the standard of work sought to be accomplished. An

ideal of healing that was occasionally attainable by the many, or more consistently reached by the few as the result of fortunate circumstances or the reward of strenuous care, has become a generally accepted obligation. No one now is ever heard to speak of laudable pus; no pus is considered praiseworthy; but, on the contrary, if it appear in a wound for which the surgeon is responsible, and in making which he had the control of all the conditions, it is always a thing to be ashamed of. Healing without suppuration, therefore, is the end aimed at in all operation-wounds, and in a sense it is an extended description of union by first intention. It applies to wounds healing by granulation, or by the organization of a blood-clot, as well as to those uniting by primary adhesion. For all alike Hunter's description holds good: "If a wound heals by first intention all keeps quiet as if nothing had happened." As Von Volkmann, one of the most distinguished and thorough of the German followers of Lister, puts it: "A primary healing wound several days after the operation ought to look exactly as if it had just been stitched; no swelling and redness; no heat; no pain."

From trusting more, because knowing better, Nature's powers of repair, it has followed that the range of reparative surgery has been greatly widened. It is not now thought sufficient in bringing wounds together to pass our sutures through all the tissues at once, but each layer is separately stitched—muscle to muscle, fascia to fascia, skin to skin. This is one of the lessons which, if it did not at first teach us, abdominal surgery has been forward to utilize. The gain in abdominal operations is in a greatly strengthened cicatrix and the avoidance of ventral hernia. In general surgery the gain is in promoting healing by the obliteration of "dead spaces," and the consequent less frequent need of drainage. That the ends of divided muscle, if brought accurately together, will be reunited by proper muscle-tissue, and not by interposed connective tissue, as was formerly supposed, is a fact of recent acquisition, but of some practical importance. In operations on the abdominal wall—especially in certain operations for the radical cure of hernia, in which, as in Halsted's, the muscular layers are freely divided, their unimpaired reunion is essential for the success of the operation. It is necessary, therefore, that the muscles should be cleanly incised, and not haggled, and that they be afterward exactly sutured; and the cases in which such plans of operating are the least likely to result successfully are those in which the repair of so complex a structure as muscle is interferred with by suppuration.

Skin-grafting, according to the method of M. Reverdin, has long been a valued resource in hastening the cicatrization of granulating surfaces. But the method known by the name of Thiersch makes larger demands on tissue-vitality, and is of wider usefulness. When a portion of the skin—it may be as large as an inch square—is detached and transferred to a recent and aseptic wound, it retains its inherent vitality until it becomes penetrated by bloodvessels advancing into it from its new bed. It is thus fully adopted and incorporated in its new position. In its practical application the whole of a large open wound can be covered by this method of skin-grafting, so that the wound shall heal by first intention. The size of the area that can be so dealt with is only limited by the possibility of obtaining grafts, which may be taken either from the same or another individual, or from a quite recently amputated limb. It is not necessary in removing the graft to take the whole thickness of the true skin. A portion of the corium left behind will, by obviating cicatricial contraction, lessen the sacrifice for that surface which is the donor, without diminishing the value of the gift to the recipient. In plastic operations on the face, and in operations for malignant disease which have involved free removal of skin, the method has found useful application. In cases of chronic ulcer of the leg, than which no class of minor surgical ailments gives more trouble in treatment, or more certain disappointment as to relapses, Thiersch's grafting holds out a welcome hope of cure. Bearing in mind the necessity of an aseptic condition of the bed upon which the grafts are to be placed, it is requisite, by paring the edges, and by thorough scraping of the surface with the sharp spoon, as well as by the use of antiseptic solutions, to surgically cleanse the ulcer. To get rid of the irritating effects of the antiseptics, they should be washed away by sterilized water before the application of the grafts. So treated, an ulcer is brought into the condition of a recently made wound, and success entirely depends on the thoroughness with which this transformation can be effected.

In the grafting and reimplantation of bone the incorporation takes place, no doubt, in the same manner as in the case of the skin. The breaking up of the bone into small chips is not always necessary; at least in the case of the discs removed in trephining the skull. Provided these be of moderate size, they can be replaced whole.

The process of repair in nerves is still imperfectly understood. The whole subject calls for further investigation; much also would be gained by greater and more explicit detail in the records of cases.

The history of the pathology of tubercle is divided into periods that correspond to those in the history of inflammation. There was the period of physical form, when the name was given to whatever was a tubercle in feel and outline; there was the period of minute anatomy, when the disease consisted of special cells and cell-groupings; and there is now the period which, as in it we have learned the essential cause of the disease, may be called the stage of real knowledge.

Before the microbic origin of tubercle was known surgery was becoming more aggressive in the treatment of so-called scrofulous disease. Scrofulous glands, for instance, were excised many years ago, at first against the protest of those whose minds were wholly influenced by the supposed constitutional origin of the complaint. The surgery of strumous joints also had long been both more conservative and more successful. But from the new light the surgery of tubercle has gained immense encouragement. The commencement of the disease in a locally-infected area has modified and restricted the conception of a constitutional tendency. The constitutional origin has been changed into a constitutional vulnerability; and, undeterred now by an idea that weighed upon him just in proportion to its vagueness, the surgeon undertakes the treatment of local manifestations of tubercle by local measures. In consequence the surgery of tubercle has undergone great extension. Affections of the skin, of the glands, of the bones and

joints, of the urinary organs, of the peritoneum, wherever the disease can be reached and wholly removed, or its action favorably modified, it is submitted to local treatment. The extension has been in the direction not only of new applications, but of greater thoroughness. The knowledge of the infective character of the disease and of the liability to local relapses, or even general infection as a consequence of incomplete removal, has led, for example, to the excision of every affected gland or of every diseased focus in a joint. The guidance afforded by pathologic knowledge is even more explicit with regard to other points of treatment. The important question of general infection has light thrown upon it by what we know of Nature's endeavors to imprison a tuberculous focus by a wall of granulation-tissue. When by an incomplete operation we break down this wall or cause it to crumble by infecting it with pus-microbes, without entirely removing the tuberculous disease, we open the way for the passage of the tubercle-bacilli into the system. Hence the extreme necessity of keeping our operations free from sepsis, as well as of making them thorough. The success of the treatment of cold abscesses by evacuation, scraping and flushing, and closure of the incision—the method known by the name of Mr. Barker—is only intelligible when their true pathology is known.

The substitution of arthrectomy for formal excision has its motive in the removal of all diseased foci and surfaces, with the least possible interference with the integrity of the limb. Its occasional failures to effect lasting cure are explained by the readiness with which scraps of diseased tissue or tuberculous foci in the bone may be left behind.

The whole disease-picture presented by carcinoma offers so many points of resemblance to that of tubercle that the probability of a parasitic origin of it also has at present taken strong possession of the minds of pathologists. The occurrence of minute organisms of the class of sporozoaria in connection with carcinoma may be held to be demonstrated; but any causal relationship between them and the disease has not been proved. On one point of importance there is agreement and a growing readiness to act upon it. Due largely to the influence of Mr. Jonathan Hutchinson, a precarcinomatous stage is recognized; and it follows from the recognition that surgery ought to interfere during this period of suspicion. Another point of practical moment is brought out by the observations of Dr. Sims Woodhead and Mr. Harold Stiles on the channels of lymphatic infection. It is shown that whenever irritative or effete material has to be dealt with in large amount a special filtering tissue is developed. This, which consists of a growth of adenoid material, is formed in the connective tissue along the lymph-channels, and is produced still more strikingly by the transformation of the small lobules of fat in the axilla. One of the great difficulties of dealing with carcinomatous disease is that we have no means of knowing when lymphatic infection first takes place. As the lymph-circulation is always going on there is no reason why infection may not occur in the very earliest stage of the primary growth. If we are to trust cases of removal of the original carcinoma with no subsequent recurrence—that is, cases of cure—it may never occur at all. We do know that the infection may lie dormant for months or even years before it gives any gross indication of its presence. In dealing with it, therefore, we are meeting an enemy whose first invasion is invisible, and whose strength at any time we cannot even guess at; but all we know of its nature—both the old knowledge and the new—only points to the necessity of free removal. It indicates the removal of the next group of glands along with the primary carcinoma, whether they show gross enlargement or not; and when an operation-wound for excision of the breast and clearing out of the axilla can be healed by first intention under one dressing there should be the less objection to extensive operations for malignant disease, if only some additional security can be gained. The rules, then, enjoining early and free removal, and their application also to recurrences, so long as these are removable, are the broad principles which surgeons accept in dealing with malignant disease; they are the results of experience, and are confirmed rather than in the first instance dictated by scientific knowledge.

It is infrequent now that from topographic anatomy comes any suggestion for a fresh advance in surgery. But now and again a corrected misrepresentation or reading of anatomic facts, a new point of view or hitherto unthought-of relationship will lead to a change in surgical practice. In illustration, the rapid creation of the surgery of the cecum and appendix, in part under the impetus of the general development of abdominal surgery, still more as the rational outcome of that corrected view of the anatomy of the parts with which we associate the name of Mr. Treves was pointed out. A yet more striking instance of a change in procedure, abrupt as a revolution, effected from the anatomic standpoint, is the revival in our time of the high operation for stone. The new facility in its performance afforded by the use of the rectal bag along with distention of the bladder—again, the bias given by the growing interest in abdominal surgery, and the tendency in the present day to prefer open operations in which the parts dealt with lie well exposed to both hand and eye—all these contributed to the rapid adoption of the change.

The question of amputation in senile and diabetic gangrene of the foot seems to be in course of settlement in favor of operation. The condition is almost certainly fatal, and is fatal often after a period of lingering and intense suffering. As a measure for its relief or for the saving of life, amputation has almost uniformly failed when it has been done in the lower part of the leg. The gangrene seizes upon the flaps, and if the limb be re-amputated higher up the stump is again attacked. But it has been found that if the leg be taken off in the first instance above the knee a fair proportion of cases recover. About one-half, according to the most recently collected figures, have been successful, and in a condition so hopeless and usually so painful, such a result is better than the certain issue of non-interference. Experience thus favors the establishment of the surgical canon: In spreading gangrene of the foot, amputate through the thigh.

An old and familiar surgical canon formulated by our predecessors as the result of experience, enjoined on the surgeon the duty of operating, "when in doubt," in all cases of hernia. We greatly need the guidance of some equally definite rule in cases of internal obstruction.

Upon the question of operation surgeons are, if not divided into two parties, at least biased in contrary directions. Some would operate in all cases of complete obstruction so soon as they have the opportunity; others would try other measures, see what Nature will do, and operate as a last resource. Strong arguments are to be found on either side. The surgeon who would always operate, and had always an early opportunity of doing so, would unquestionably achieve the best results possible, although he would operate on a certain proportion of cases that could spontaneously recover. Unfortunately no one is brought in contact with even the majority of his cases in an early stage. Hence arises the force of the contrary arguments. The circumstances that militate against the success of operation for internal obstruction in the fully established or later stages of the complaint are twofold. In the first place, in nearly all cases secondary changes speedily ensue, which hinder the search for the obstructing cause, and which may nullify attempts at its removal. In the second place, the patient often passes, it may be at an early period, into a condition mainly due to poisoned blood in which he trembles on the brink of collapse, and in which operation is badly borne. Add to these the fact that a not inconsiderable number of cases, even when there is stercoraceous vomiting, do recover, whose chance of recovery would disappear under the shock of an operation; and we have a fair statement of the reasoning against operating in all cases. Where are we to look for guidance? Mainly, the question must be settled by experience, which brings the ability better to discriminate between the different causes producing obstruction, and to appreciate the prognosis to be attached to each. In a syllabus of intestinal surgery recently published by Dr. Byron Robinson a list of eleven different causes of intestinal obstruction is tabulated. When we have learned more accurately to distinguish between these at the bedside we shall be much nearer to the acknowledgment of a surgical canon or rule to guide our interference.

The magnitude of many modern operations carrying surgical interference to the verge of what the human body can sustain make it more and more incumbent on the surgeon to avoid, or as far as possible to minimize, shock. We do not know the exact pathology of the condition; probably several different conditions are included under the name. But we are very familiar with its symptoms. We know that the patient becomes cold, that the heart's action is depressed, and that all the nervous functions are lowered. We know also that it is induced or aggravated by prolonged operation, by chilling of the surface, by hemorrhage, whether this take place rapidly or by continuous oozing in small quantity for a long time. The giving of chloroform on successive days also lowers the patient's resisting-power. All this supplies hints enough for its prevention and treatment. Something can be done in anticipation of the operation in the way of propping both the physical and moral courage of the patient. Much can be done after the operation in rallying from the condition; and a very small, stimulating hypodermatic dose of morphin has proved then of greater use than the same measure employed as a prophylactic. Transfusion with a normal saline solution has so wonderful a power of rallying from shock, though its good effect has been disappointingly transitory, that its use will now not be neglected. But most is in our power in the way of prevention by guarding our patients against all those causes that produce shock or aggravate it; and, therefore, the surgical canon which in this matter claims not formal acknowledgment but systematic observance is, avoid or as far as possible minimize shock.

(To be concluded.)

SELECTIONS.

ABUSE OF MEDICAL CHARITIES.

HERE in London, after about a quarter of a century of agitation, and after innumerable confessions of gross abuse by the most competent authorities on the subject, no attempt whatever is being made to formulate any plan by which that abuse may be checked, and if any reflection is made in the journals on hospitals where out-patients are received out of the streets in thousands without any pretence of inquiry, the staff of those hospitals rush to the defence of the system.

Meanwhile, the numbers of out-patients are growing. and so is the pecuniary embarrassment of the hospitals, Mr. Yerbury, a member of the Distribution Committee of the Saturday Fund, writes to the *Times* of July 14th to make an earnest appeal for the Fund, and points out in his letter that the "number of new out-patients" is 1,132,433, carefully distinguishing between that number and the number of visits. He also points out that "one noble institution has been compelled to close 140 beds and another 30 for want of funds."

Now, no one can regret more than we do the embarrassments of our hospitals; nowhere does any effort to mitigate them obtain more cordial support than in this *Journal*. So we have no fear of being charged with being an enemy to the hospitals if we tell them the truth. And it is the truth admitted by their warmest friends and supporters that the out-patient system is a blot upon their fame, and that some united effort for its amendment will soon be insisted on by public opinion. That amendment must take the form of regulations to exclude both persons able to pay for advice and also persons unlikely to derive benefit from hospital treatment, and whose ailments require home treatment and supervision. We had looked with hope to the inquiry recently instituted by the Lords' Committee to lay the foundation of that reform. It seems only too likely that all such hopes will be frustrated, and that the reform must spring from the public and from the profession. But these must act through some agency.—*The British Medical Journal.*

CONSULTATION WITH HOMEOPATHS.

MR. HART does not realize that the profession in America has the same view as in England concerning consultation with homeopaths.

He says: "How can we expect to enter into consultation with one whom we believe to be possibly practising an honest delusion, and yet with whom we must accept the position of a mere solver of riddles?"

The agitation on this point has long since gone by. Here is the question for which the new code men strive:

May a regular go with a homeopath to see a patient, or may the latter bring the patient to his office, if the patient is treated according to rational medicine?

It is fair to conclude that when a homeopath needs a regular he needs him badly or he would not call him, and, "as the good of the patient is the sole object in view," this is a strong argument on the part of the new code men. In the nature of things it appears difficult to frame in words the meaning of this; certainly the Committee on Revision does not put it clearly. And until the new code men say just what they mean, it might be as well to keep to the old code; or, if they can't say what they mean, and this is best for medicine and the people, then let us have no written code for contention. We want to know next year, at San Francisco, intelligibly, just what we are voting on.—*Omaha Clinic.*

NEWS ITEMS.

The Pan-American Medical Congress.—Program of the Section on Pathology.

One session will be devoted to a formal discussion on the subject of "Carcinoma," to be opened by Dr. Wernicke, of Buenos Ayres, as referee, and Prof. Allen J. Smith, of Galveston, as co-referee. Papers on this subject have been promised by Dr. Joshua M. Van Cott, Honorary President of the Section, and Dr. Joseph McFarland, of the Advisory Council.

Another session will be devoted to "Yellow Fever," the discussion to be opened by Drs. Acosta and Grande, of Havana, Cuba, and as co-referee, Dr. A. J. Amades, of Puerto Rico, Honorary President.

Dr. James E. Reeves, of Chattanooga, of the Advisory Council, will give a practical demonstration of the methods in "Pathologic Histology."

Dr. Wm. M. Gray, of the Army Medical Museum, will give a practical demonstration of the methods in "Photography Applied to Pathology."

Dr. J. J. Kinyoun, P. A. Surg. U. S. Marine-Hospital Service, will give a practical demonstration of "Methods in Bacteriology.

The following papers have been promised: "Notes on Three Years' Work in the Pathologic Laboratory of the Charity Hospital of New Orleans," by Dr. Henry Dickson Bruns, of New Orleans; "Medical Geography of Puerto Rico," by Dr. A. J. Amades, of Puerto Rico; "Theories of Inflammation," by Dr. Jose Torres Matos, of Havana; on "Inflammation," by Dr. E. O. Shakespeare, of Philadelphia; on "Cholera," Dr. Herman M. Briggs, of New York; "L'Etat Hyperexcitabilité du Nerf Phrénique, dans le Beriberi," by Dr. J. B. de Lacerda, of Rio de Janeiro; "Paludismo," by Dr. A. J. Amades, of Puerto Rico; "Bacteriologic Observations on the Waters of the Harbor of Havana," by Drs. Acosta and Grande; "Observations on Malaria," by Drs. Coronado and Madau; "Operations of the Anti-rabic Laboratory in Havana," by Dr. Acosta; "Abscess of the Liver," by Dr. James E. Reeves, of Chattanooga; on "Influenza," by Dr. Ramon Guitéras, of New York; "Observations on the Brains of Feeble-minded Children," by Dr. Henry W. Cattell, of Philadelphia; and "Pathology of Pelvic Inflammatory Trouble," by Dr. Joseph Price, of Philadelphia.

Papers have also been promised by Prof. Wm. H. Welch, of Baltimore; by Dr. W. T. Councilman, of Boston; by Dr. G. F. H. Nuttall, of Baltimore; and Drs. William E. Hughes and W. S. Carter, of Philadelphia.

Prizes for Nurses.—The *British Medical Journal* announces that two prizes, one of $75 and another of $25, are offered by the editor of the *Hospital*, London, for the best two plans for a model nurses' home and training school. The competition is open to women superintendents, matrons, and nurses in the British Empire, the United States, and the countries of Europe. Descriptions must be type-written and consist of two parts: (1) a statement setting forth categorically all the rooms and accommodations which are necessary in order to make the proposed nurses' home a model of what such an establishment should be where room is provided for from 50 to 100 nurses; (2) a second statement and plan prepared in similar form which provides accommodation for from 150 to 200 nurses. Each of these specifications must be accompanied by plans drawn to a uniform scale and must explain how the proposed home for nurses can be extended, should the growth of the establishment render such a step necessary. Competitors must send their names and addresses by November 1, 1893, to Dr. J. S. Billings, United States Army, Washington, D. C., and all plans and proposals presented for competition must reach Dr. Billings not later than January 1, 1894. Dr. Billings, Dr. Henry M. Hurd, Superintendent of the Johns Hopkins Hospital, Baltimore, Md., and Miss Sophia S. Palmer, Superintendent of the Garfield Hospital, Washington, D. C., are to be the judges of the papers and plans submitted, and their decision will be final. All proposals must be type-written, on one side of the paper only, and all plans must be drawn to a uniform scale of ⅛ inch to 1 foot. It is proposed to publish an account of the competition, with a selection from the competing plans, such publication to be undertaken by the *Scientific Press*, London, at their option, to whom papers and plans will be sent by the judges after they have made their award.

A Case of Cholera in New York Harbor.—It is officially announced that a case of cholera has been found among the passengers of the steamer Karamania, which left Marseilles on July 15 and Naples on July 22. The diagnosis was based upon the detection of cholera-bacilli in the intestinal evacuations. The patient had been isolated on Swinburne Island, and is recovering. All of the other passengers are in good health. There is no fear of a spread of the disease.

The International Medical Congress Postponed.—Dr. A. Jacobi, Chairman of the American National Committee of the Eleventh International Medical Congress which was to meet in Rome, Italy, September 24 to October 1, 1893, has received a cablegram that the meeting of the Congress has been postponed to April, 1894.

The Medical Society of Virginia will hold its twenty-fourth annual session at Charlottesville, Va., October 3, 4, and 5, 1893. An interesting program is in process of arrangement.